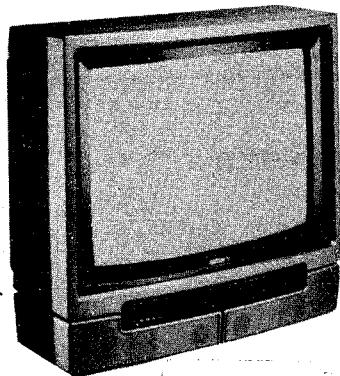


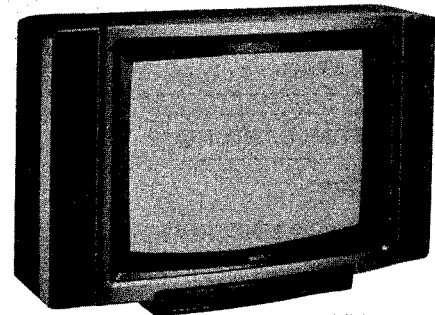
# KV-2720/22/24EC2

## ADJUSTMENT MANUAL

*AEP Model*  
Chassis No. SCC-522A-A



KV-2720EC2



## PE-3 CHASSIS

March, 1984

Please use the Adjustment Manual  
in conjunction with the Service Manual.

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TRINITRON® COLOR TV  
**SONY®**

CTV

## SECTION 1 SETUP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted:

- (picture) control ..... maximum  
 (Press (1) + button)  
 BRIGHTNESS control .... maximum  
 (fully clockwise)  
 AFT switch ..... ON

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. White Balance

**Note:** Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser

### 1-1. BEAM LANDING

#### Preparation:

- Feed in the white pattern.
- Before starting, degauss the entire screen.

1. Loosen deflection yoke screw.
2. Adjust purity control as shown in Fig. 1-1.
3. Slide deflection yoke as far forward as it will go.
4. Position neck ass'y as shown in Fig. 1-2.
5. Disconnect leads (6) and (8) on the C board.
6. Adjust purity control to center vertical red band as shown in Fig. 1-3.
7. Slide deflection yoke back for a uniform red screen.
8. Check green and blue rasters for uniformity by performing the same way as steps 5, 6 and 7.

To get a uniform green screen,  
connect lead (6) on the C board and  
disconnect leads (8) and (8).

To get a uniform blue screen,  
connect lead (8) on the C board and  
disconnect leads (8) and (6).

After these checks, connect the leads (8), (6) and (8).

9. Tighten the deflection yoke screw.
10. Check if mislanding appears at corners a - d as shown in Fig. 1-4. If mislanding is observed, correct it as shown in Fig. 1-4.
11. Confirm that beam landing is correct when the receiver is faced in all directions.

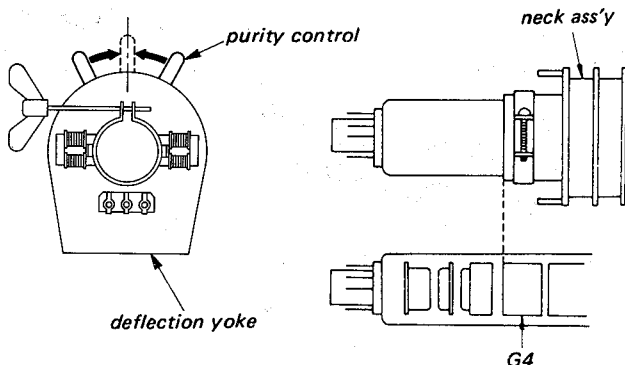


Fig. 1-1.

Fig. 1-2.

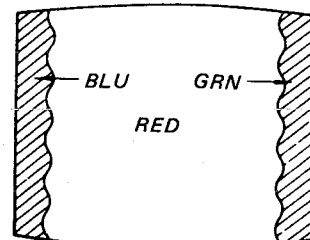


Fig. 1-3.

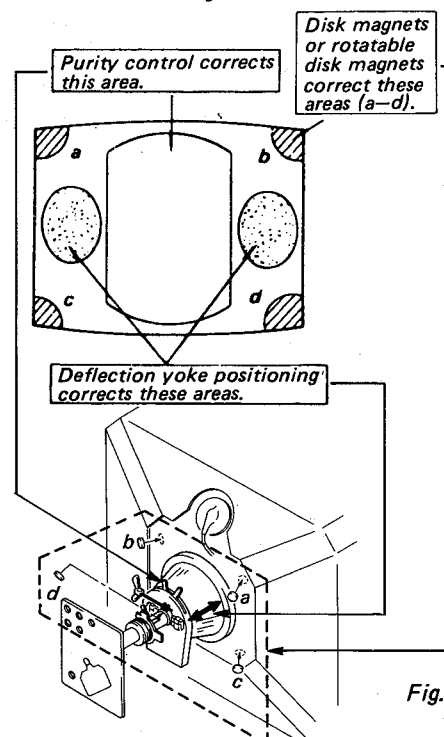
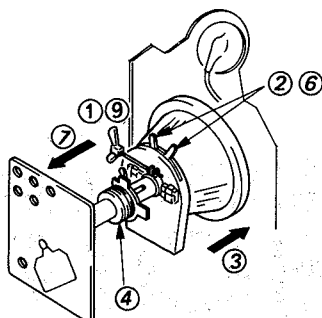


Fig. 1-4.



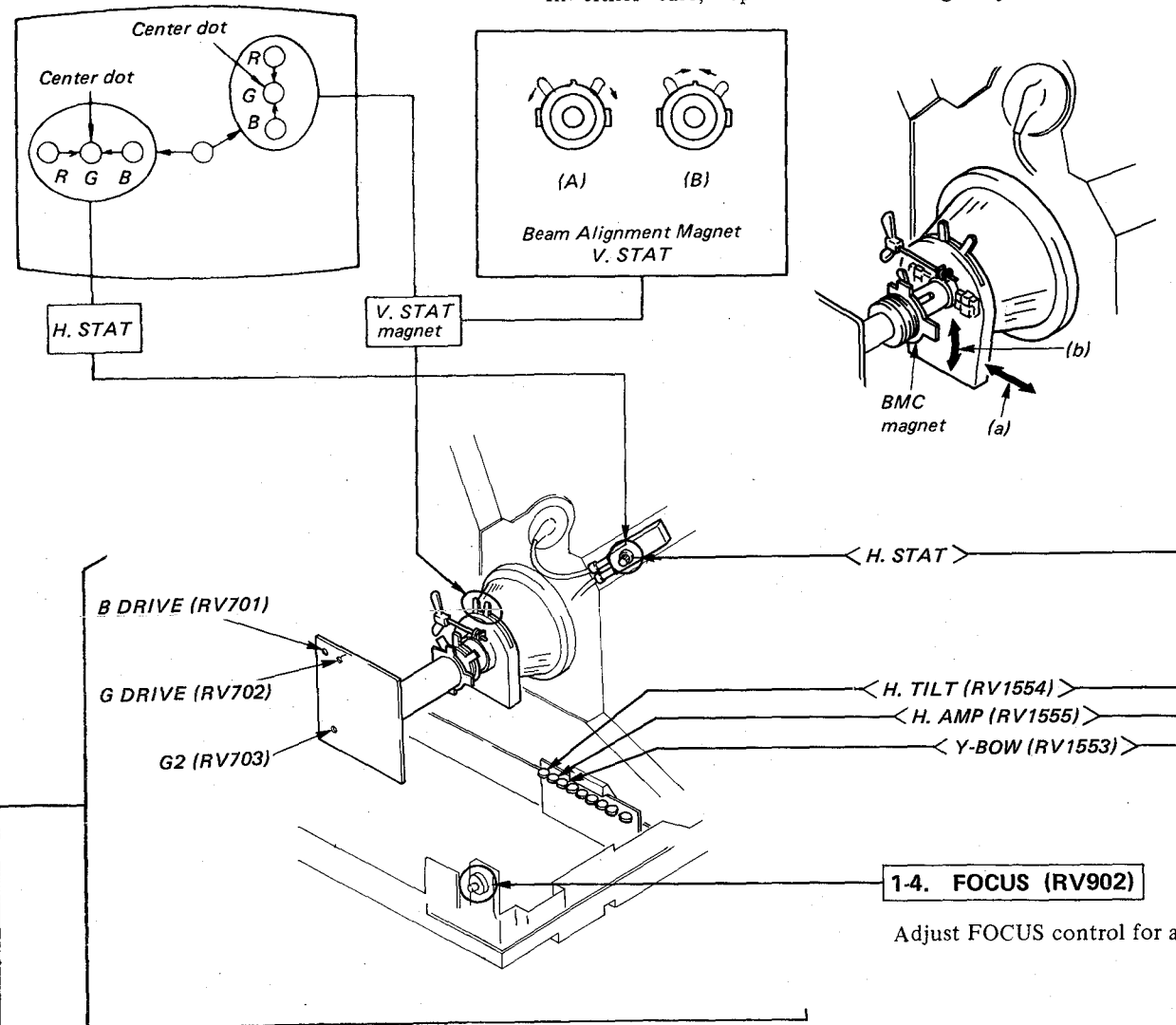
**Note:** The circled numbers (1)-(9) show above steps.

## 1-2. CONVERGENCE

### Preparation:

- Before starting this adjustment, perform FOCUS, H. SIZE and V. SIZE adjustments.
- Turn BRIGHTNESS control fully counterclockwise.
- Feed in a dot pattern.

### (1) Horizontal and Vertical Static Convergence



## 1-3. WHITE BALANCE

1. Tune in an off air signal.
2. Set the (BRT) control at mechanical center and (PIC) control at initial center.
3. Set the (COL) control at minimum.
4. Adjust White Balance with RV701 and RV702.
5. Confirm that White Balance does not change to turn the (BRT) control minimum through maximum.

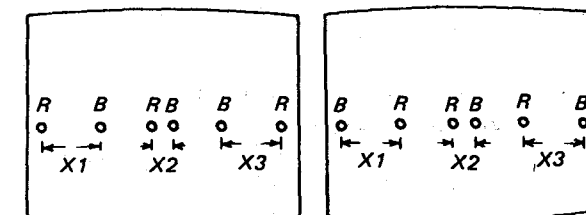
## 1-4. FOCUS (RV902)

Adjust FOCUS control for a best picture.

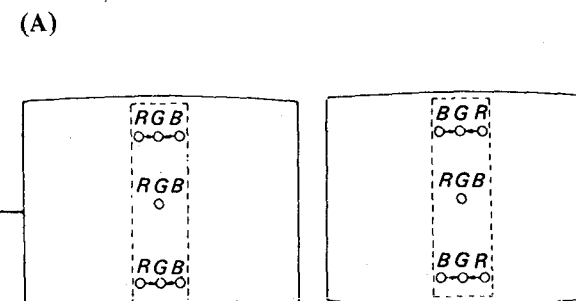
## (2) Dynamic Convergence

### [Misconvergence at Both Sides of Screen.]

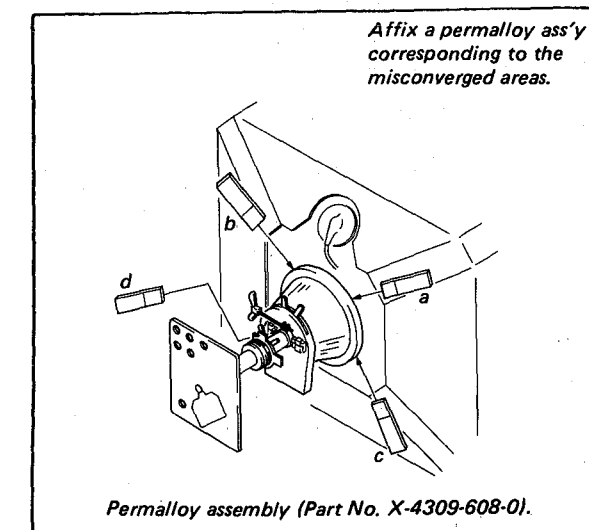
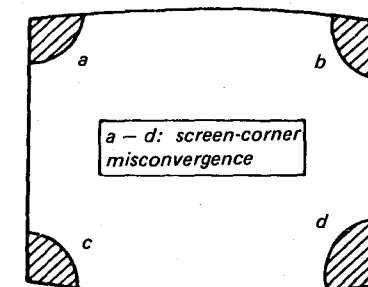
1. Set RV1555 and RV1554 to mechanical center.
2. Adjust H. STAT control so that green and blue dots coincide at center of screen.
3. Adjust RV1544 so that X1 is equal to X3.
4. Adjust RV1555 so that X2 is equal to X3.
5. Repeat above Steps 1 through 4 two or three times.



### [Top and Bottom Misconvergence]



## (3) Screen-corner Convergence



# SECTION 2 CIRCUIT ADJUSTMENTS

## 2-1. D1 BOARD ADJUSTMENT

**Note: (1) TEST EQUIPMENT REQUIRED**

1. Oscilloscope
2. Digital multimeter
3. Color-bar/pattern generator

**(2) INPUT SIGNAL**

When making these adjustments, supply a color-bar or an off-air signal.

**(3) CONTROL SETTINGS**

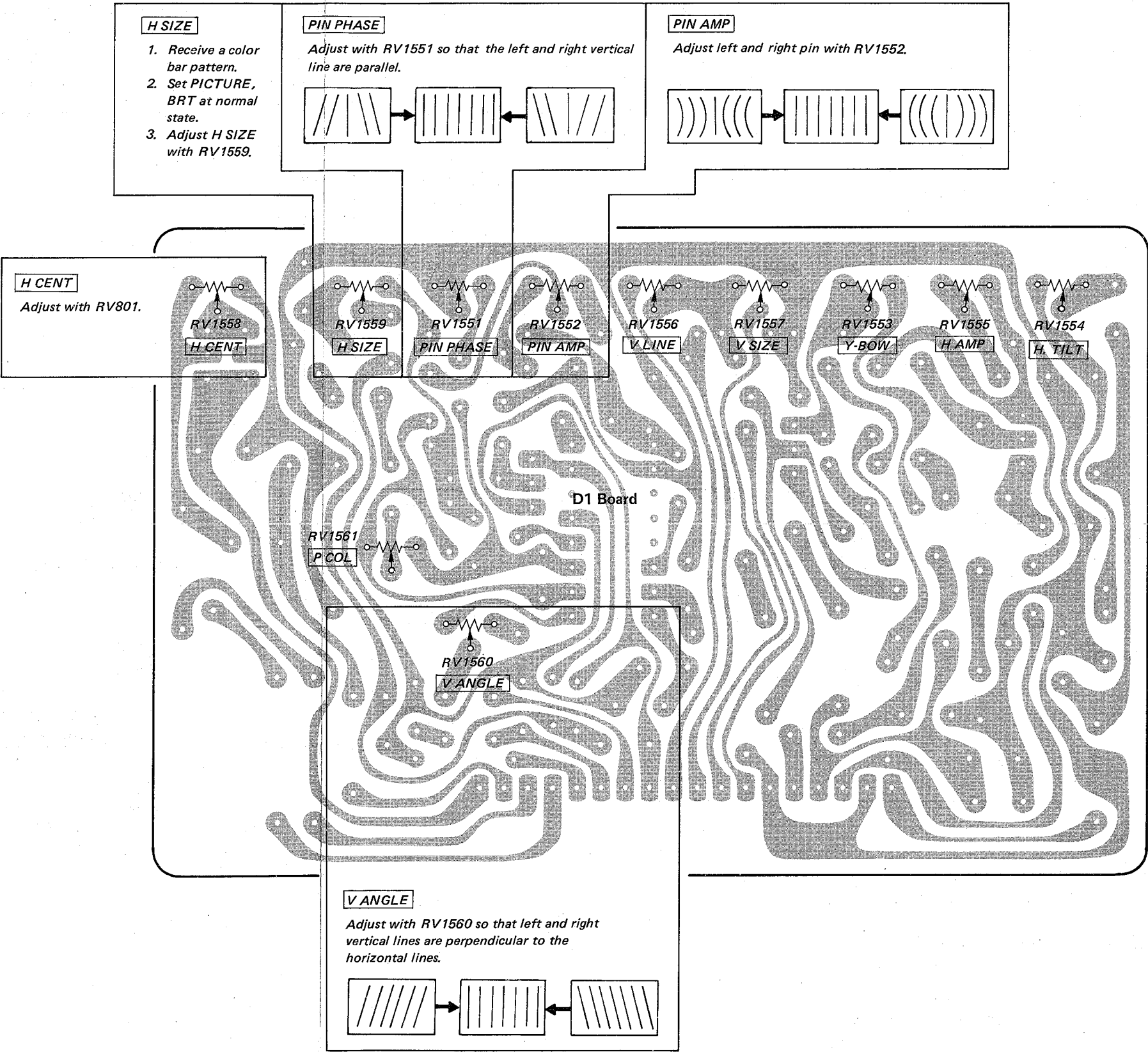
Controls and switches should be set as follows when, making checks and adjustments unless otherwise noted.

- ① PICTURE control ..... initial setting
- ② BRIGHTNESS control } mechanical center
- ③ COLOR control }

(4) These adjustment should be performed with the rated power supply voltage unless otherwise noted.

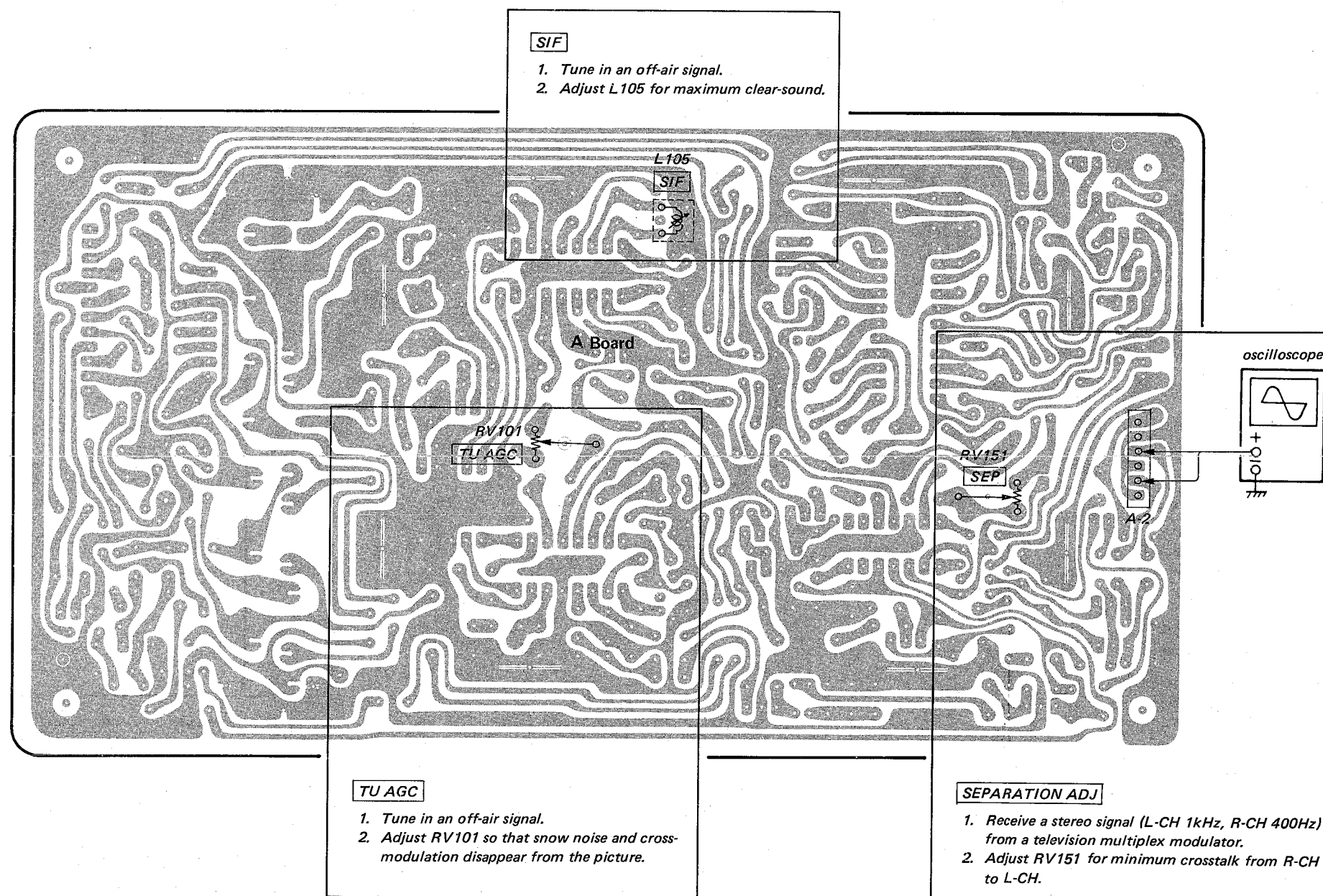
**(5) CIRCUIT ADJUSTMENT**

Adjustment	Circuit Board	Page
H SIZE PIN PHASE PIN AMP H CENT V ANGLE	D1	5, 6
SIF TU AGC SEPARATION	A	7, 8
DISCRI	SCM	8
1H DALAY 4.43MHz TRAP SUB-BALANCE SUB-BRIGHT APC SUB COLOR +135V ADJ HORIZONTAL SYNC	D	9, 10

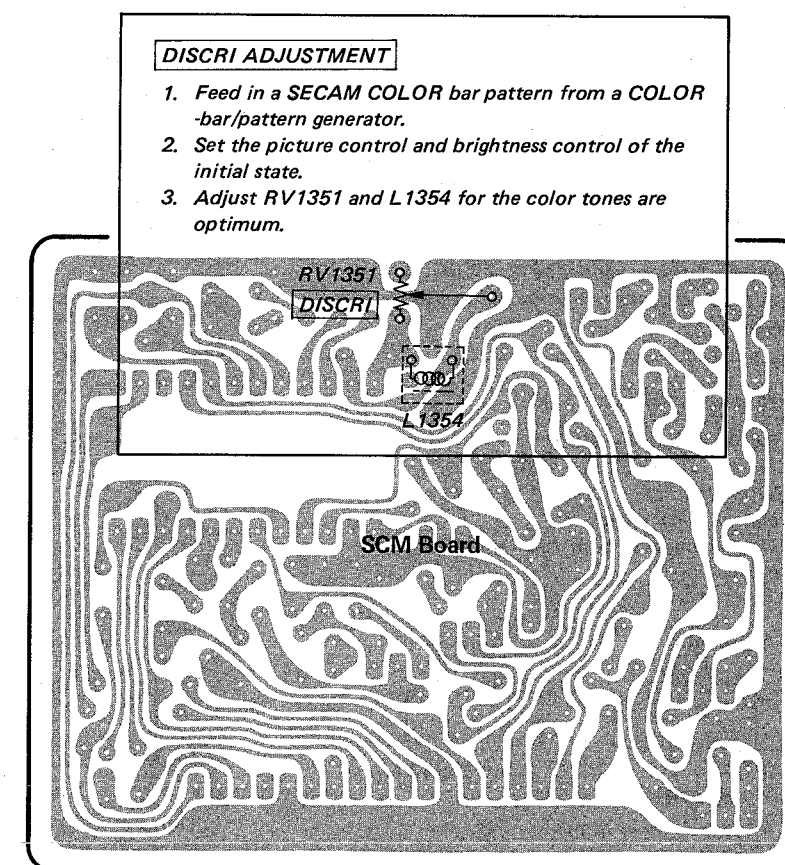




## 2-2. A BOARD ADJUSTMENTS



## 2-3. SCM BOARD (OPTIONAL) ADJUSTMENT



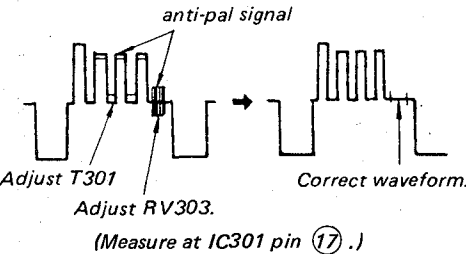
2-4. D BOARD ADJUSTMENTS

SUB BALANCE

1. S/S switch at OFF and BALANCE, BASS, TREBLE control at mechanical center.
2. Adjust with RV251 (SUB BALANCE) so that left and right levels are the same at D-15, D-16.
3. Turn BALANCE control to the right and confirm that the left side cannot be heard, that turn to the left and confirm that the right side cannot be heard.

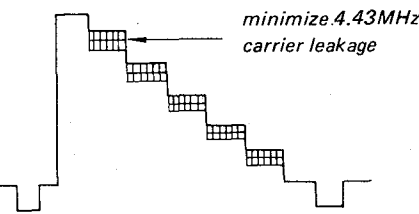
1H DL ADJUSTMENT

1. Receive a color bar signal.
2. Observe blue output of IC301, (17) pin.
3. Set the PICTURE, COLOR and BRT control to mechanical center.
4. Get tracking with both T301 and RV301 as shown



4.43MHz TRAP

1. Feed in a color-bar signal from the color-bar/pattern generator.
2. Adjust 4.43MHz trap for minimum 4.43MHz component.



SUB BRIGHT

1. Receive a dot signal.
2. Set BRT control at mechanical center.
3. Adjust to  $2.0 \pm 0.2V$  with RV302. (Measure at IC301 pin (11))

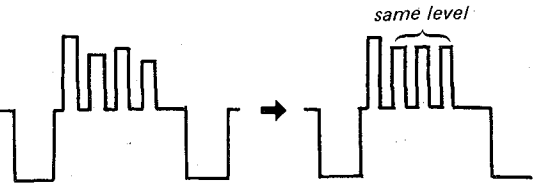
APC ADJUSTMENT

1. Receive a color bar signal.
2. Set the PICTURE, COLOR and BRT control to mechanical center.
3. Connect Resistor (100k $\Omega$ ) between pin (1) and pin (2) of IC301.

4. Short-circuit between the pin (2) and pin (3), pin (24) and pin (25) of IC301 with a jumper.
5. Adjust CV301 to obtain the stable color picture.
6. Disconnect the 100k $\Omega$  resistors and the jumper.

SUB COLOR

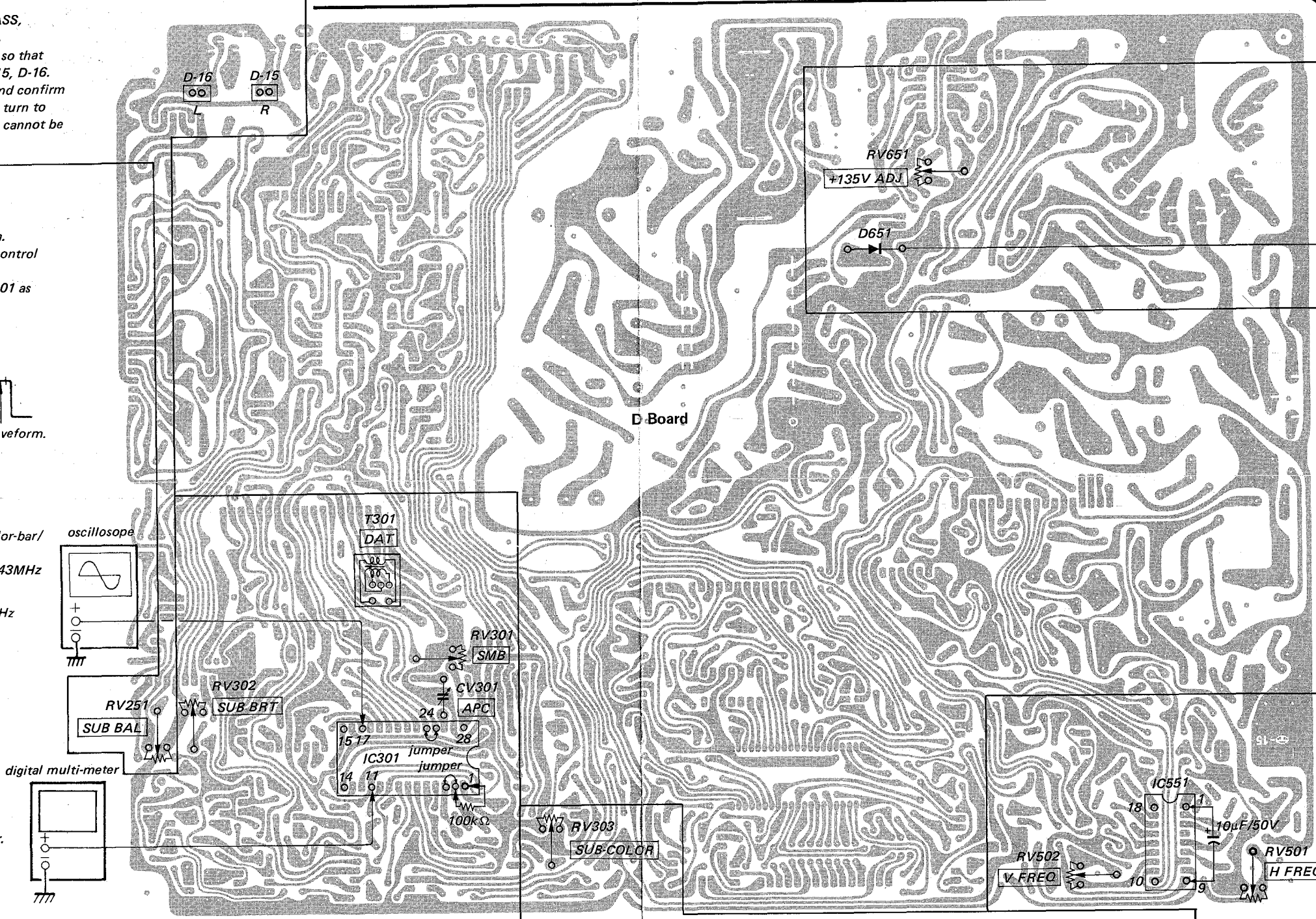
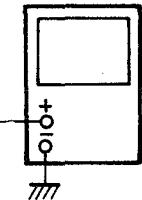
1. Receive a color bar signal.
2. Set the each VRs at 50%.
3. Adjust RV303 for same level from IC301 pin (17) as shown.



+135V ADJUSTMENT

Adjust to 135V with RV651.

digital multi-meter

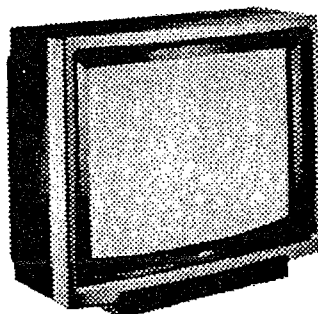


Horizontal Sync Adjustment

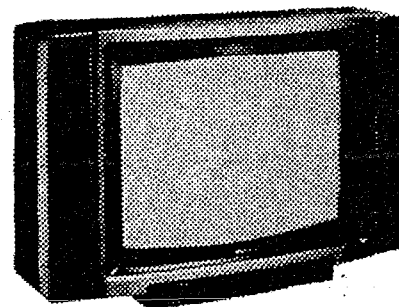
1. Tune in an off-air signal.
2. Set the PICTURE and BRT control to initial state.
3. Connect a 10 $\mu F$ /50V chemical capacitor between IC501 pin (1) and ground, and set H OSC for free run.
4. Adjust RV502 so that picture flowing in horizontal direction stops.
5. Reconnect a chemical capacitor from IC501.

# KV-2720

## SERVICE MANUAL



*AEP Model*  
Chassis No. SCC-522A-A



## PE-3 CHASSIS

November, 1983

### SPECIFICATIONS

Television system: CCIR TV standards (system B, G and H)  
Color system: PAL  
STEREO system: Two-carrier system  
Channel coverage: VHF channels E2-U20  
UHF channels E21-E68  
Programming system: 30 programs  
Automatic programing digital tuning  
Picture tube: approx. 68 cm (27 inches),  
approx. 64 cm screen measured diagonally  
114-degree deflection Trinitron system  
Antenna: 75-ohm standard antenna socket  
(DIN 45325/IEC 169-2)  
Audio output: 20 W + 20 W (music power)  
Input: 21-pin connector in accordance with  
the requirements of CENELEC standard  
Outputs: Audio output connector (5-pin DIN)  
Recording output: 1 mVrms/kilohm  
Line output: variable, 0-2 Vrms (max.)  
impedance less than 1 kilohm  
External speaker terminals (2-pin DIN)  
For 8-ohm speakers  
Headphones socket for 32-ohm impedance  
headphones  
Power requirements: 220-240 V ac, 50 Hz  
Power consumption: series: 132 W

Accessories supplied: Remote Commander RM-634 (1)  
Only for the bolt (4), wrench (1)  
Speakers supplied with the  
System: 2-way speaker system  
Units: Woofer: 8.5 cm, cone type  
Tweeter: 5 cm, cone type  
Nominal impedance: 8 ohms  
Power handling capacity: 15 W (max.)

Design and specifications subject to change without notice.




TRINITRON® COLOR TV  
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**WARNING !!**

**AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.**

**SAFETY-RELATED COMPONENT WARNING !!**

**COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.**

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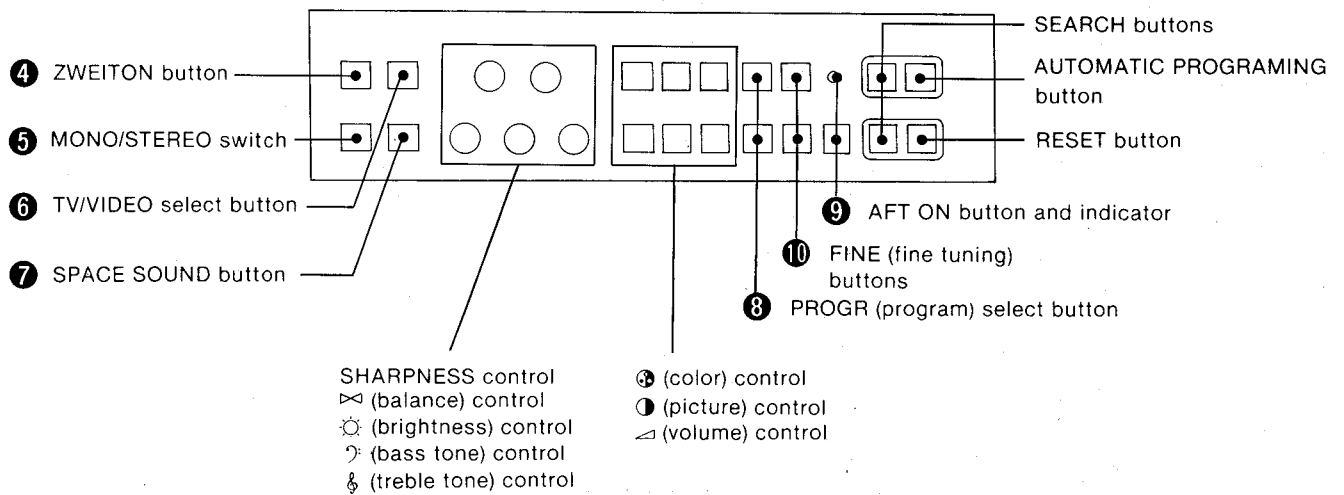
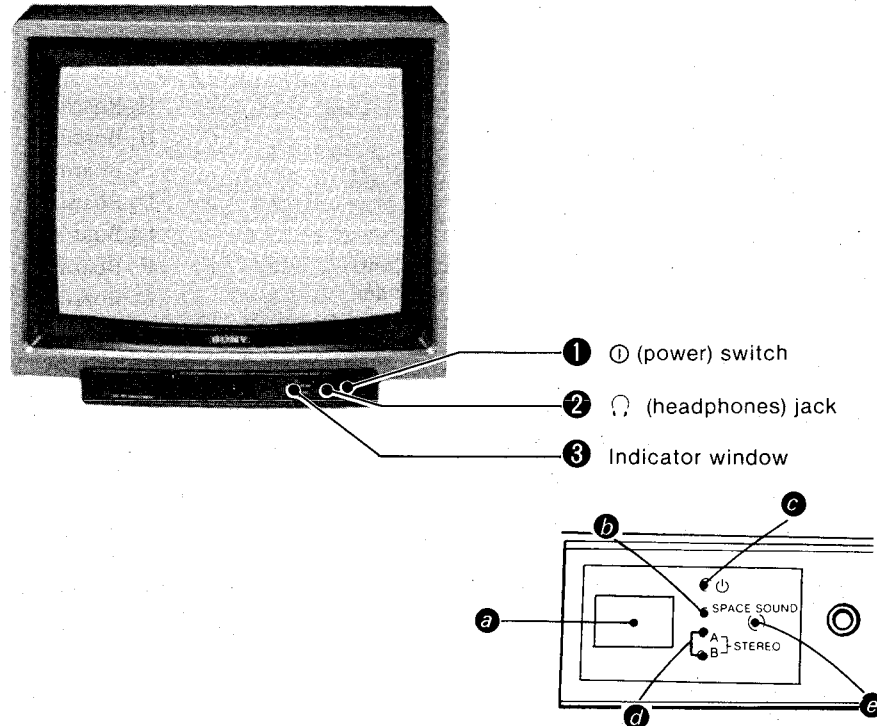
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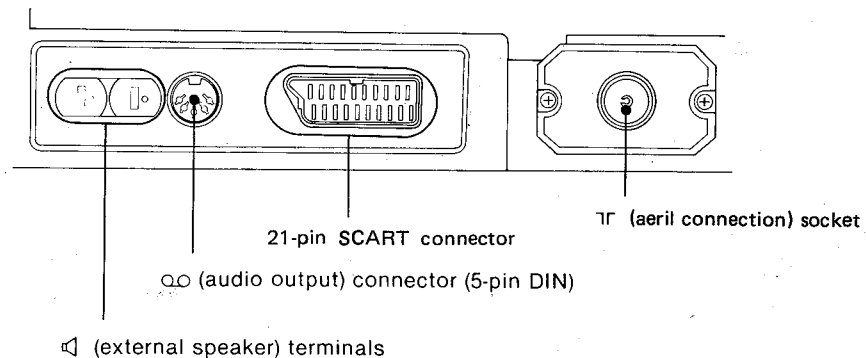
# SECTION 1 GENERAL

## 1-1. LOCATION AND FUNCTION OF CONTROLS

On the front panel



On the rear panel



**1 ① (power) switch**

Press to turn the TV on. Press again to turn the power off.

**2 ② (headphones) jack**

Connect stereo headphones here. Speaker sound will be disconnected. If your stereo headphones have a stereo miniplug, use an optional plug adaptor. To hear the sound from the speakers, disconnect the headphones.

**3 Indicator window**

**a Program indicator**

**b SPACE SOUND indicator**

**c ③ (standby) indicator**

Lights up when the TV is turned off with the Remote Commander. When any of the buttons on the Remote Commander is pressed, this lamp blinks.

**d Zweiton/STEREO indicators**

When a dual-sound program is received, A or B lights up.

When a stereo program is received, both indicators light up.

**e Remote control detector**

Point the infrared transmitter of the supplied Remote Commander here.

**4 ZWEITON button**

When a dual-sound program is received, select the language.

**5 MONO/STEREO**

Normally set this switch to the depressed STEREO position.

Stereo programs can be received. If a stereo program has too much noise, press and release this switch (MONO position). The noise will be reduced, although the stereo feature will be lost.

**6 TV/VIDEO select button**

When playing back a video tape recorder without a 6-pin DIN connector, press this button so that "VCR" lights in the program indicator. (When playing back a recorder with a 6-pin DIN connector, the video mode is automatically selected.)

**7 SPACE SOUND button**

Press to get special acoustic effects (for example, more presence). The SPACE SOUND indicator will illuminate. To disengage, press it again.

**8 PROGR (program) select buttons**

Press either + or - to select a preset program (from positions 1 through 30). Press + for higher numbered programs, and - for lower numbered programs. Programs will be changed continuously in sequence. The selected program number will appear on the program indicator.

**9 AFT (automatic fine tuning) ON button and indicator**

When the AFT circuit activates, the indicator illuminates.

Press the AFT ON button to restore the AFT on the channel which has been fine-tuned manually with the FINE buttons. After the automatic programming is finished, or after a station is tuned and memorized in the manual programming system, the AFT circuit will automatically reactivate.

**10 FINE (fine tuning) buttons**

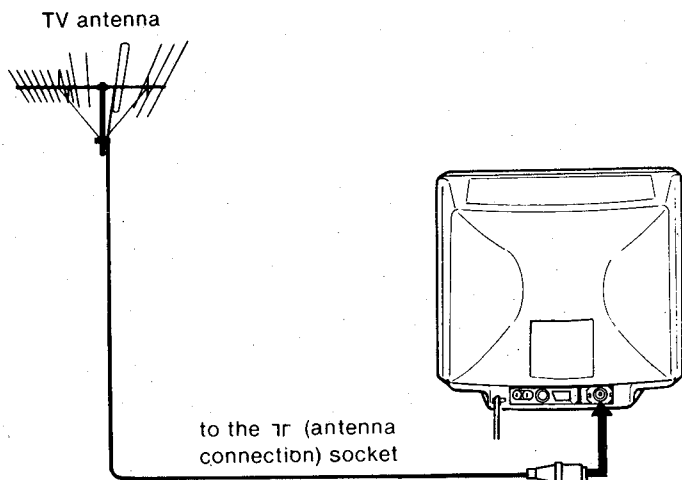
Keep either + or - depressed to get a clear picture for each unsatisfactory channel. The AFT circuit will be automatically deactivated.



## 1-2. CONNECTIONS

### ANTENNA CONNECTION

Good picture and sound are obtained when a proper antenna is used. Your TV receiver is equipped with a standard antenna connection socket, which is effective for both VHF and UHF reception. Use a coaxial antenna connection cable equipped with a single plug, and insert the plug into the  $\Upsilon$  (antenna connection) socket of your TV.

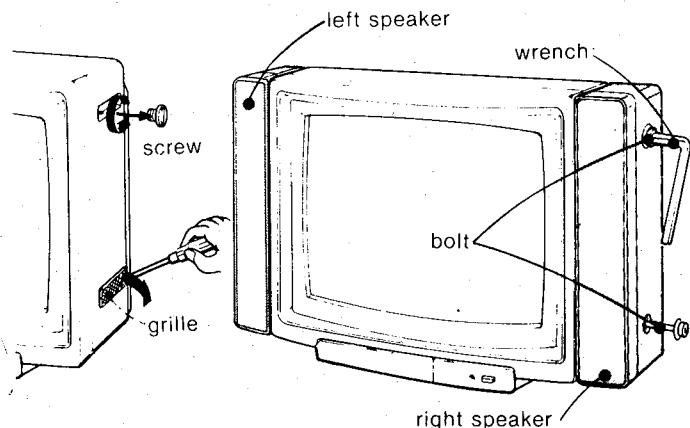


When a video tape recorder is to be connected to the  $\Upsilon$  socket of the TV, connect an antenna to the recorder, as explained on page 11.

#### KV-2722EC

Remove the screws and grilles on both sides of the TV using a screwdriver or similar and attach the supplied left and right speakers by tightening the supplied bolts with the supplied hexagonal wrench.

- The left and right speakers can be distinguished by the label at the rear of each speaker.



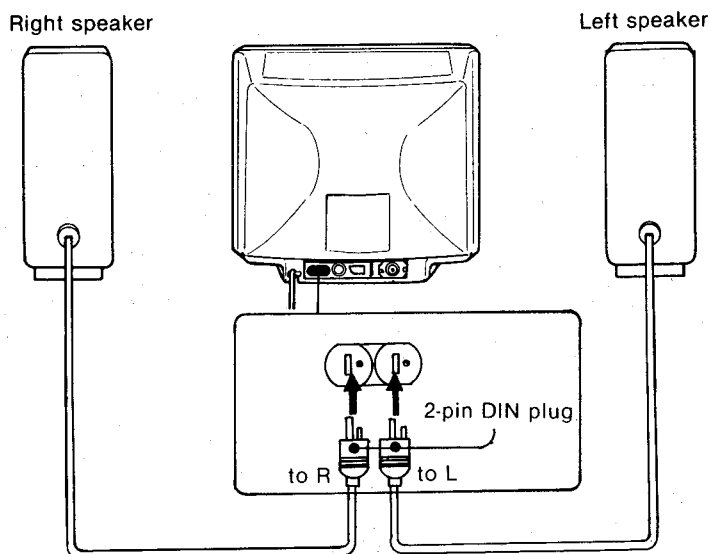
You can connect an external speaker system or an amplifier in the same way as the above example of KV-2720EC. If you connect an external speaker system, the attached speaker system is disconnected.

### SPEAKER CONNECTION

#### KV-2720EC

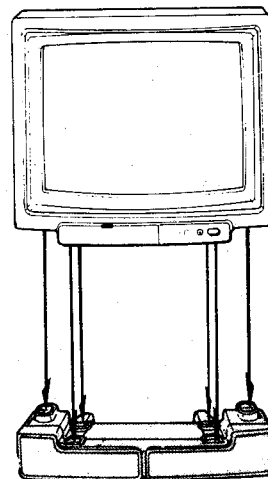
The KV-2720EC is not equipped with speakers. Attach an optional SS-2722 (the same as the speakers supplied with the KV-2722EC) or SS-2724 (the same as the speakers supplied with the KV-2724EC) speaker system, or connect external 8-ohm speakers to the  $\triangle$  terminals at the rear.

#### ex. External speaker connection



#### KV-2724EC

Place the TV on the supplied speaker system.



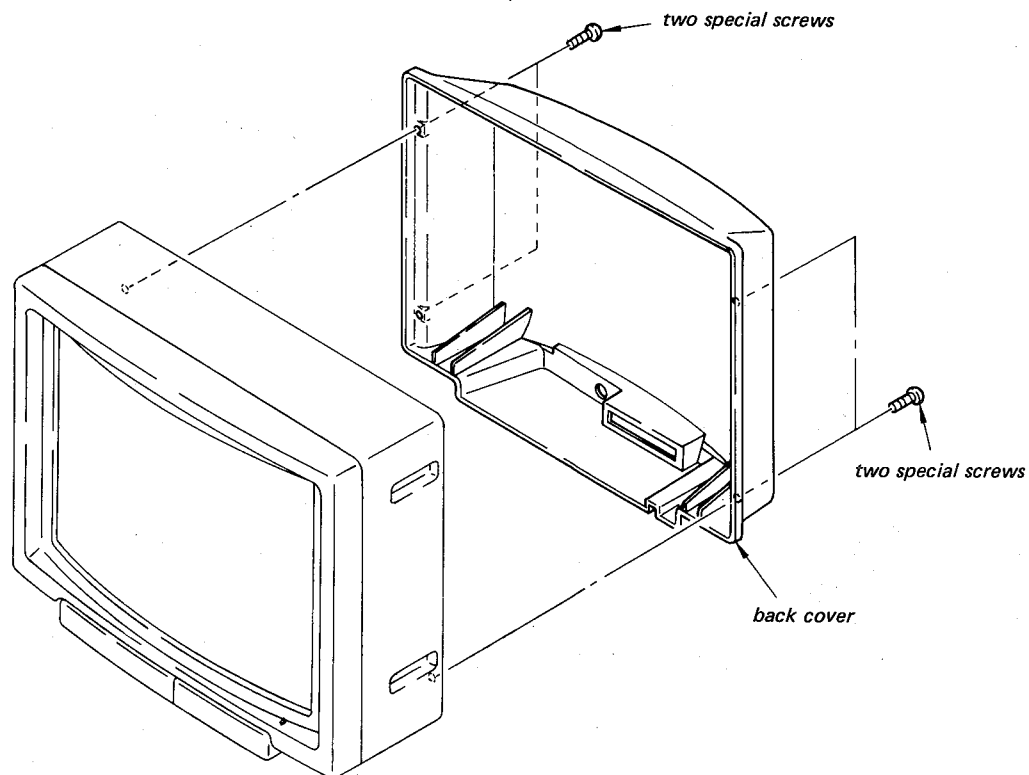
You can connect an external speaker system or an amplifier in the same way as the one for KV-2720EC. If you connect an external speaker system, the attached speaker system will be disconnected.

### POWER CONNECTION

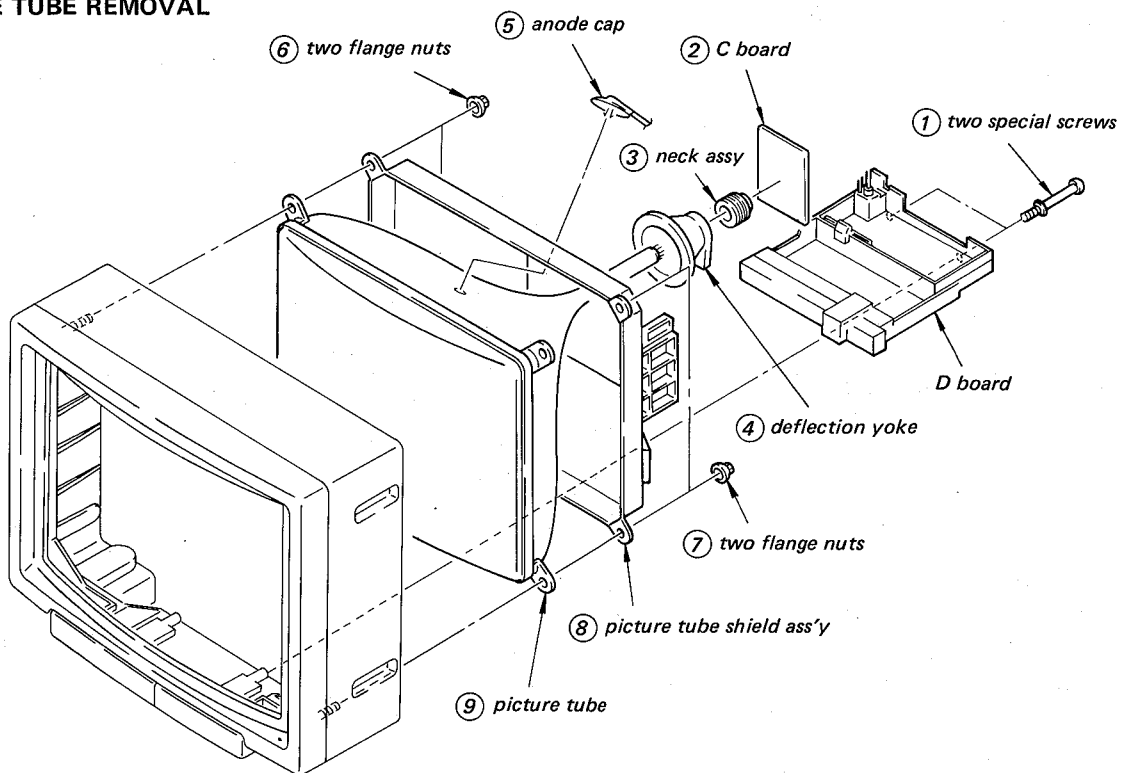
This TV operates only on 220–240 V ac. Plug the ac power cord into a 220–240 V ac wall outlet.

## SECTION 2 DISASSEMBLY

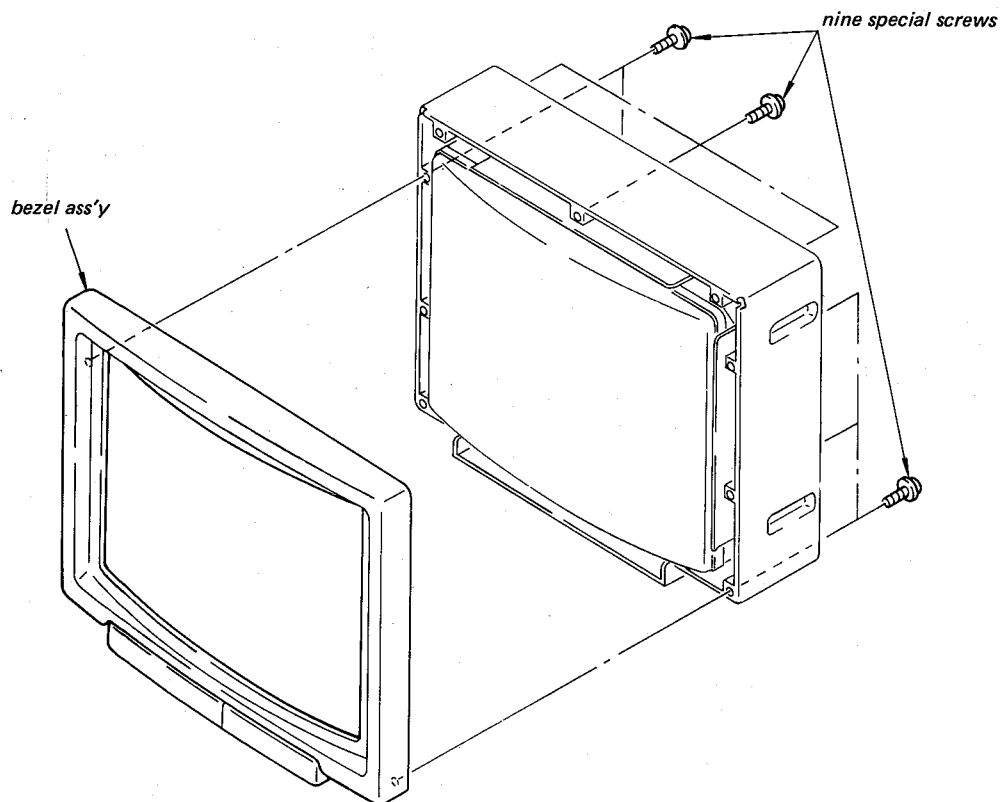
### 2-1. BACK COVER REMOVAL



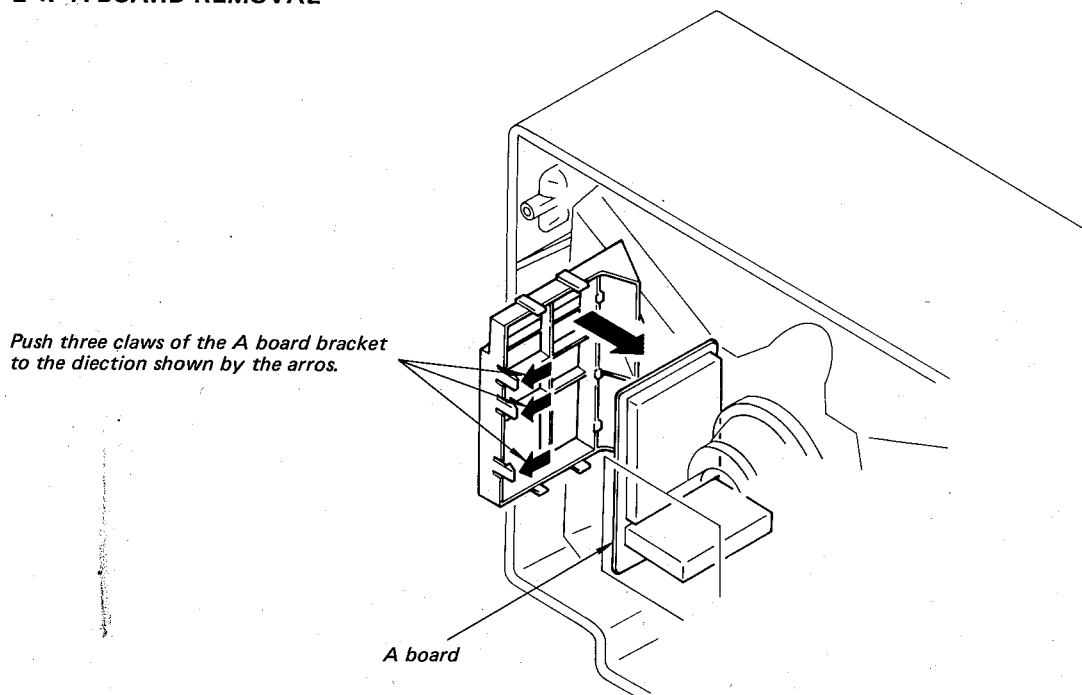
### 2-2. PICTURE TUBE REMOVAL



### 2-3. BEZEL ASS'Y REMOVAL

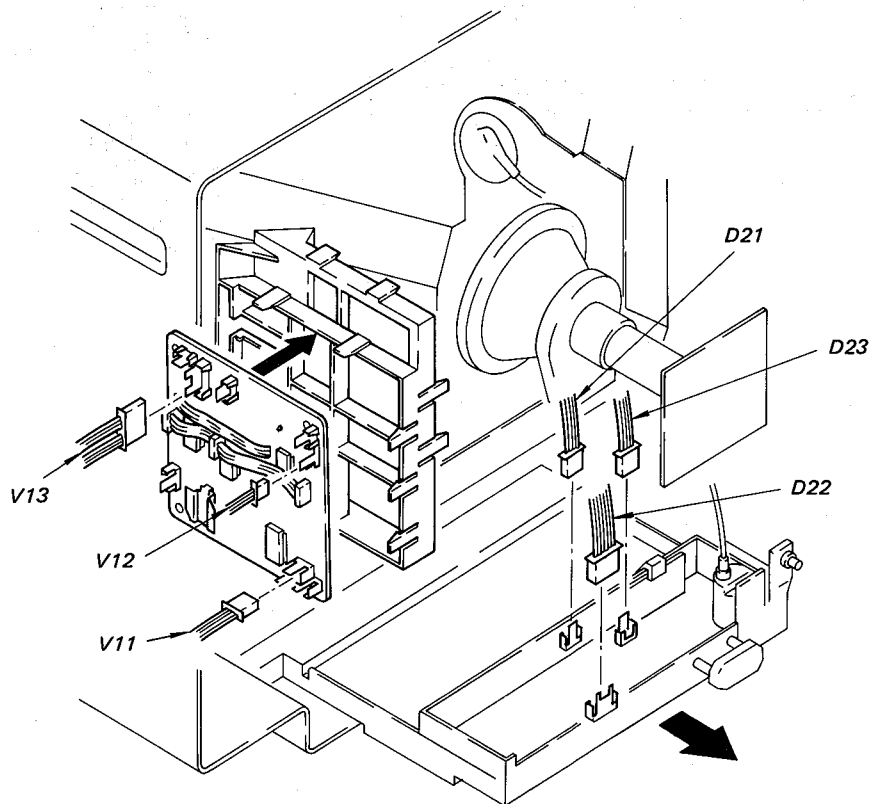


### 2-4. A BOARD REMOVAL

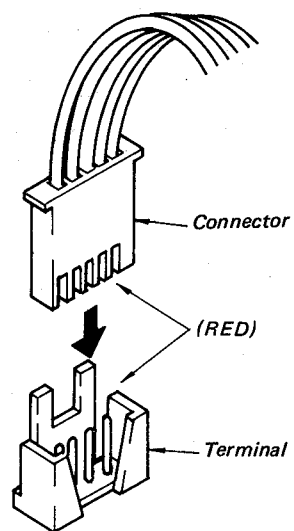
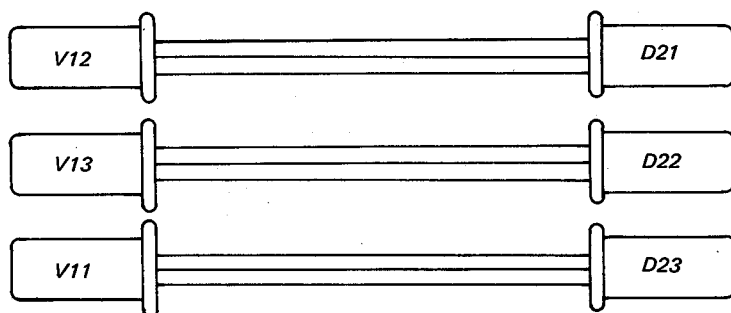


## 2-5. OPK-203 BOARD ATTACHING

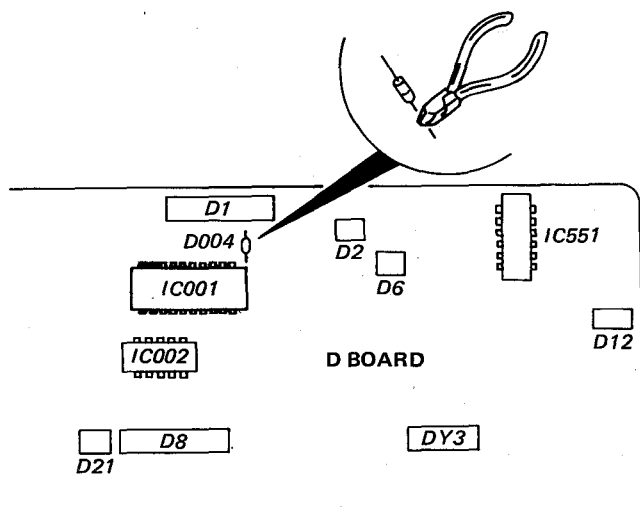
- Before installing the OPK-203 unplug the set from the wall outlet.
  - After the installation is completed, check that the TV operates properly.
  - Cut out the JW81 of the OPK-203.
1. Remove the back cover.
  2. Attach the OPK-203 to the A board bracket and pull out the main chassis ass'y.





3. Connector to the same number terminal as the connector.  
Connected terminals are coloured red.

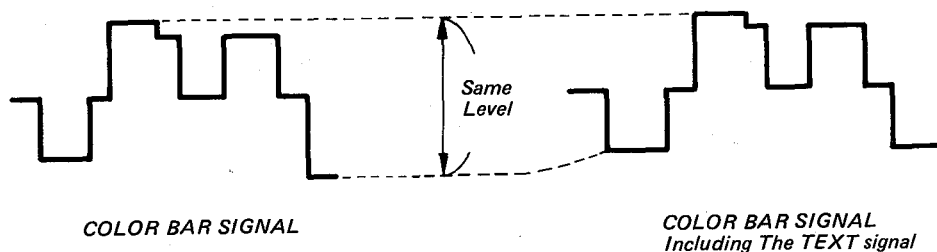


4. Cut out the D004 of the D board.



#### 5. ADJUSTMENT

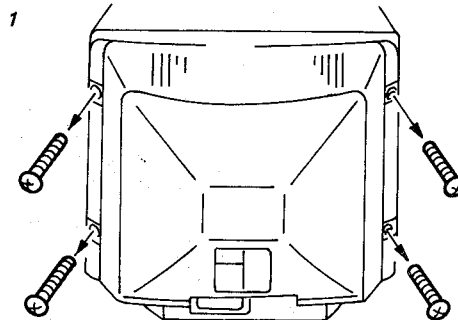
- (1) Set the  (picture) control of the minimum and  (breghtness) control of the mechanical center.
- (2) Receve the COLOR BAR signal.
- (3) Connect the Oscilloscope to the Red input of C board.
- (4) Receve the COLOR BAR signal including the TEXT signal.
- (5) Press the TEXT button on the remote commander.
- (6) Adjust RV-3 for a same level of Red input as shown below.



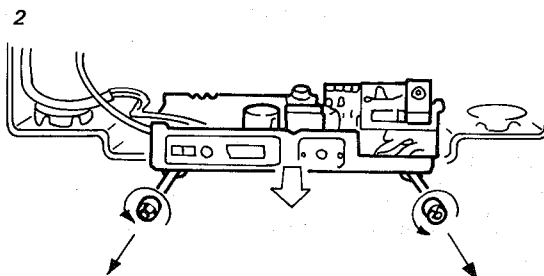
6. Attach the rear panel.

## 2-6. BEFORE INSTALLING THE OPK-202 UNPLUG THE SET FROM THE WALL OUTLET

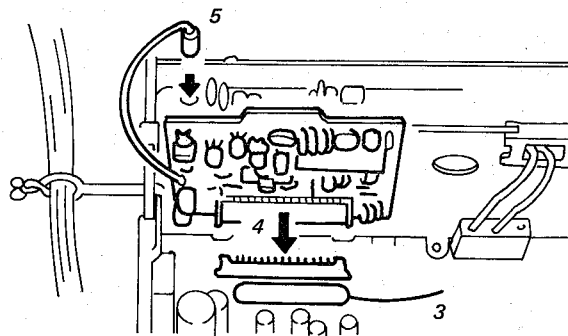
1. Unscrew and remove the rear panel.



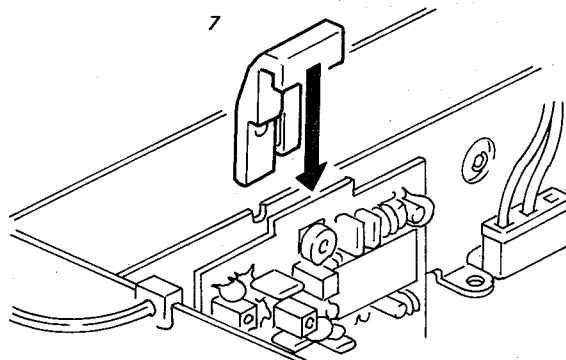
2. Unfasten the screws and pull out the main D-board. When cords are clamped, unfasten the plastic retainers. So that the main D-board can be withdrawn easily.



3. Cut off the five soldered connections marked SCM; JW208, 209, 210, 211, 213 on the D-board.
4. Insert the adaptor into the D-20 board as shown.
5. Insert the connector to the D-24 on the board.
6. Connect the power plug and check that the SECAM program is displayed in color.

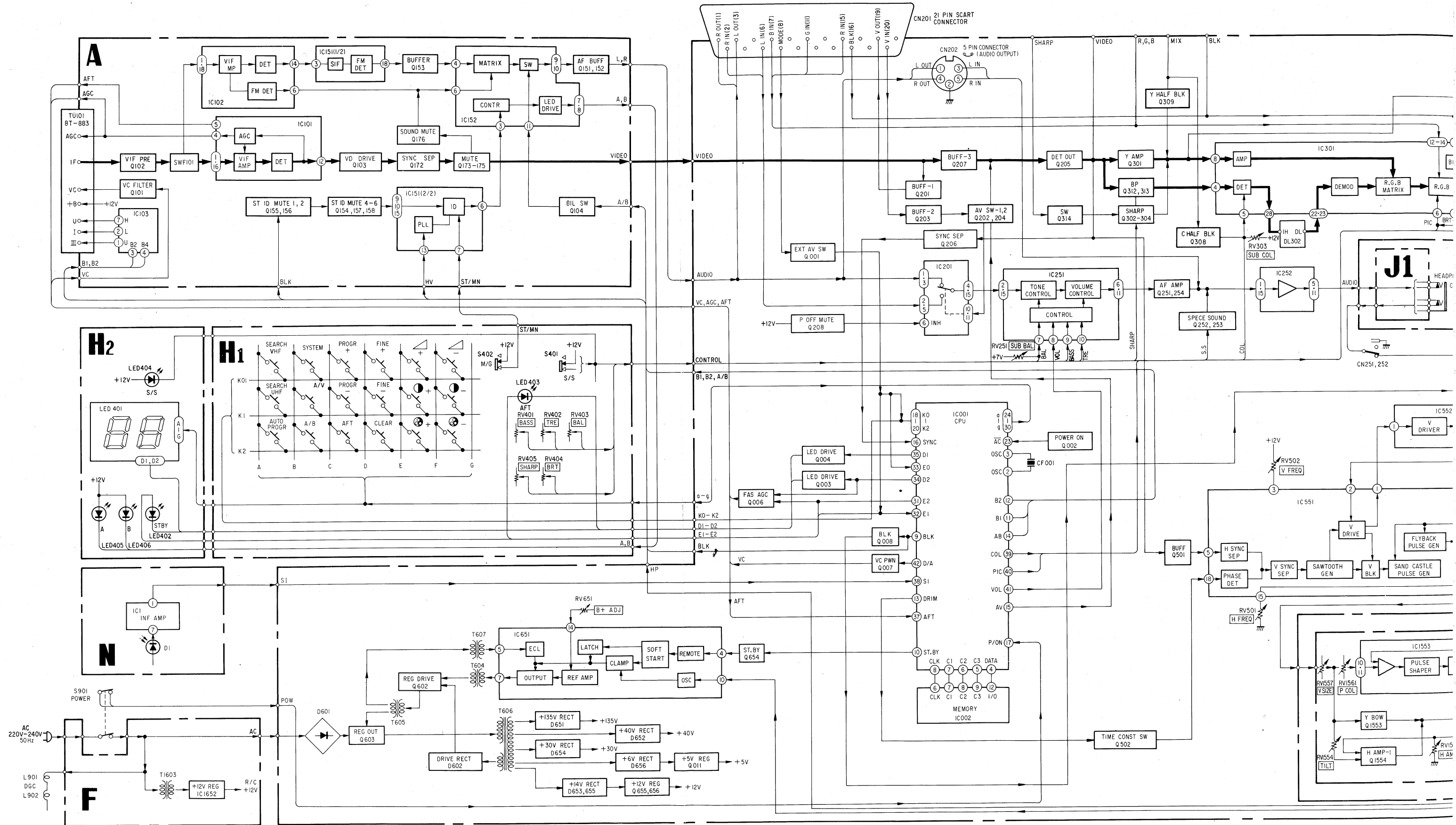


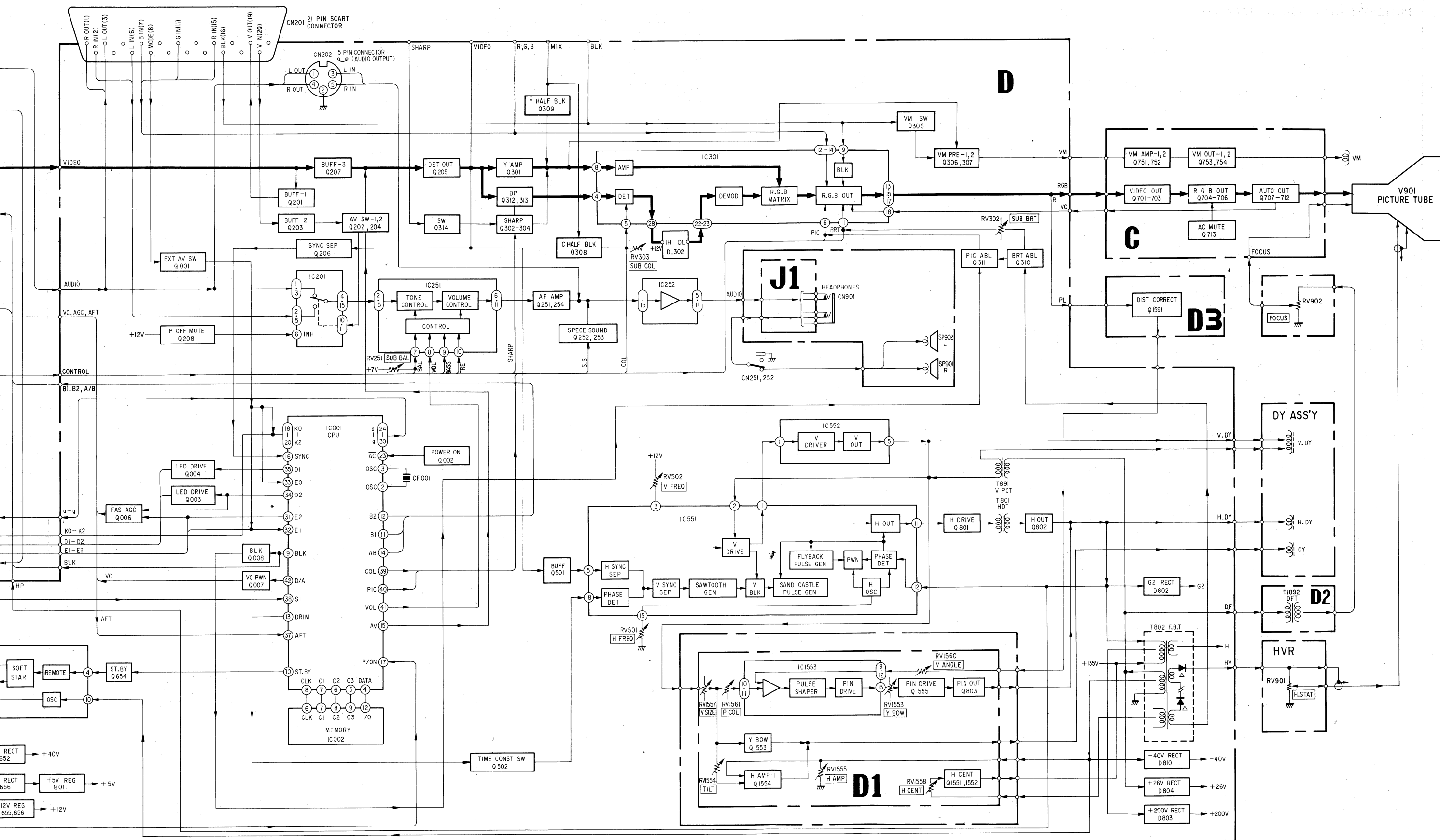
7. Secure the adaptor with the supplied adaptor holder.
8. Disconnect the plug again and reinstall the main D-board and cords as they were and tighten the screws on the board and rear panel.



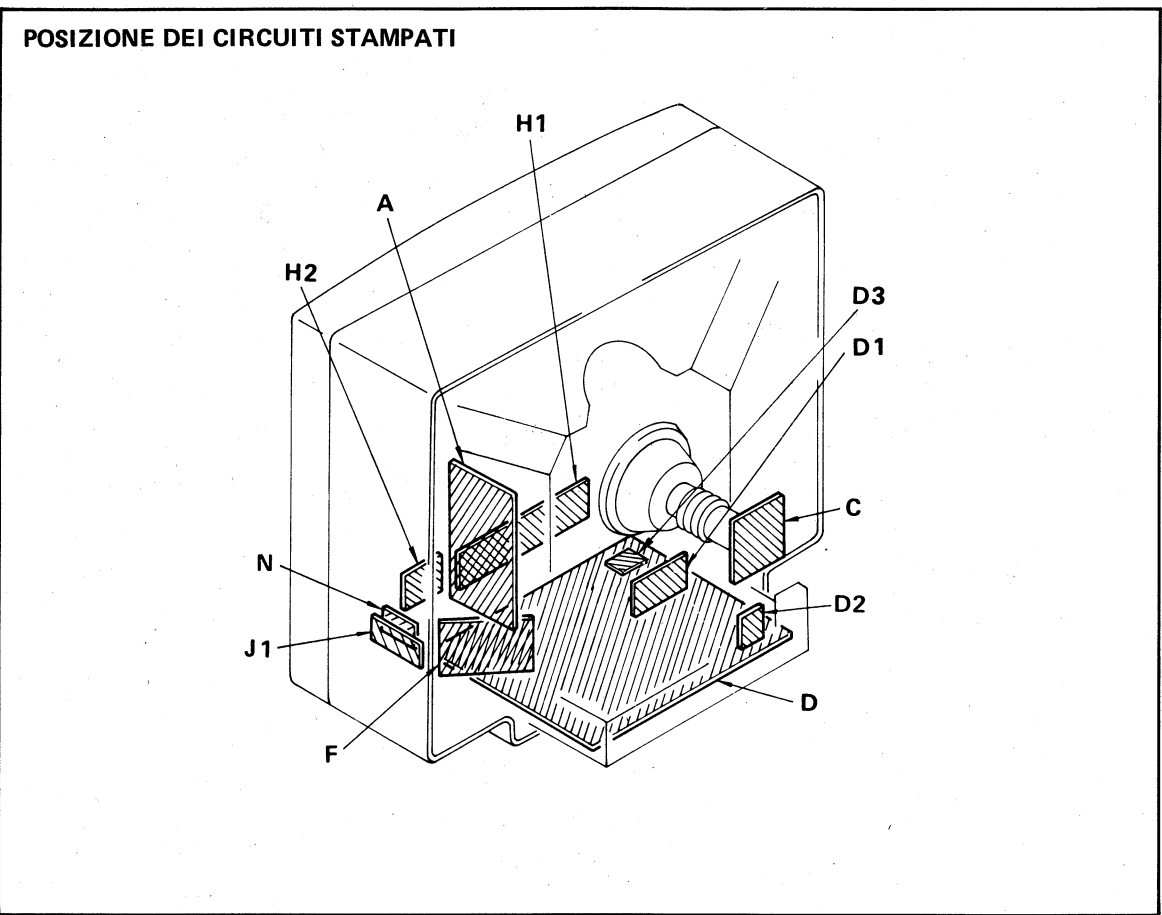


### 3-1. BLOCK DIAGRAM



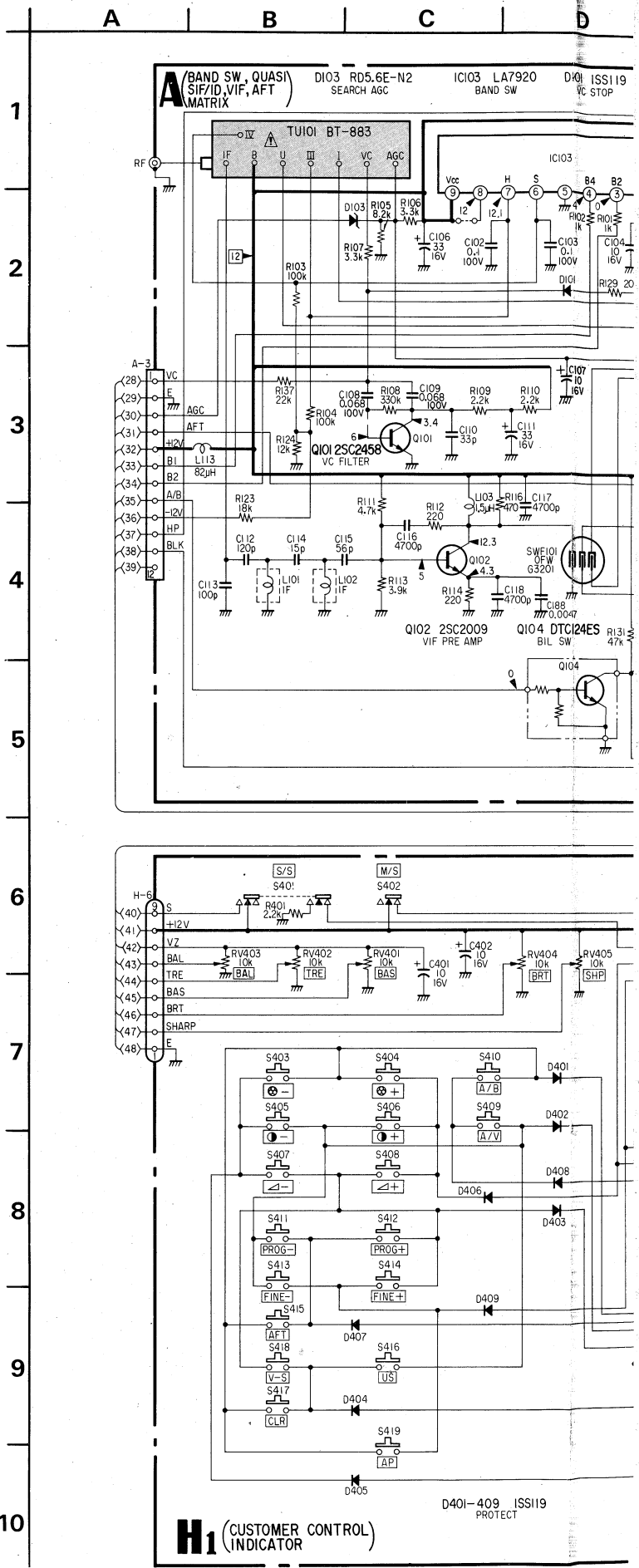


3-2. CIRCUIT BOARDS LOCATION



3-3. SCHEMATIC DIAGRAM

- Note:**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$  :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics
  - C board and D board resistors are in ohms,  $\frac{1}{4}$  W unless otherwise noted, and other boards are in ohms,  $\frac{1}{6}$  W unless otherwise noted. k : 1000  $\Omega$ ; M : 1000 k $\Omega$
  - All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
  - : nonflammable resistor.
  - : fusible resistor.
  - $\triangle$  : internal component.
  - : panel designation.
  - : adjustment for repair.
  - All voltage are in V.
  - : B+ bus.
  - : B- bus.
  - Voltages are dc with respect to ground unless otherwise noted.
  - Readings are taken with a 10 M $\Omega$  digital multimeter.
  - Readings are taken with a color-bar signal input.
  - Voltages on A and H<sub>1</sub> boards are taken under conditions below.
    - The channel 2 is selected.
    - VOLUME control is set to no sound position.
    - PICTURE control is set to the first stage.  
(The first stage is the condition when the POWER switch sets to ON.)
  - Waveform on A board is taken with controls set to the first stage.
  - Voltage variations may be noted due to normal production tolerances.

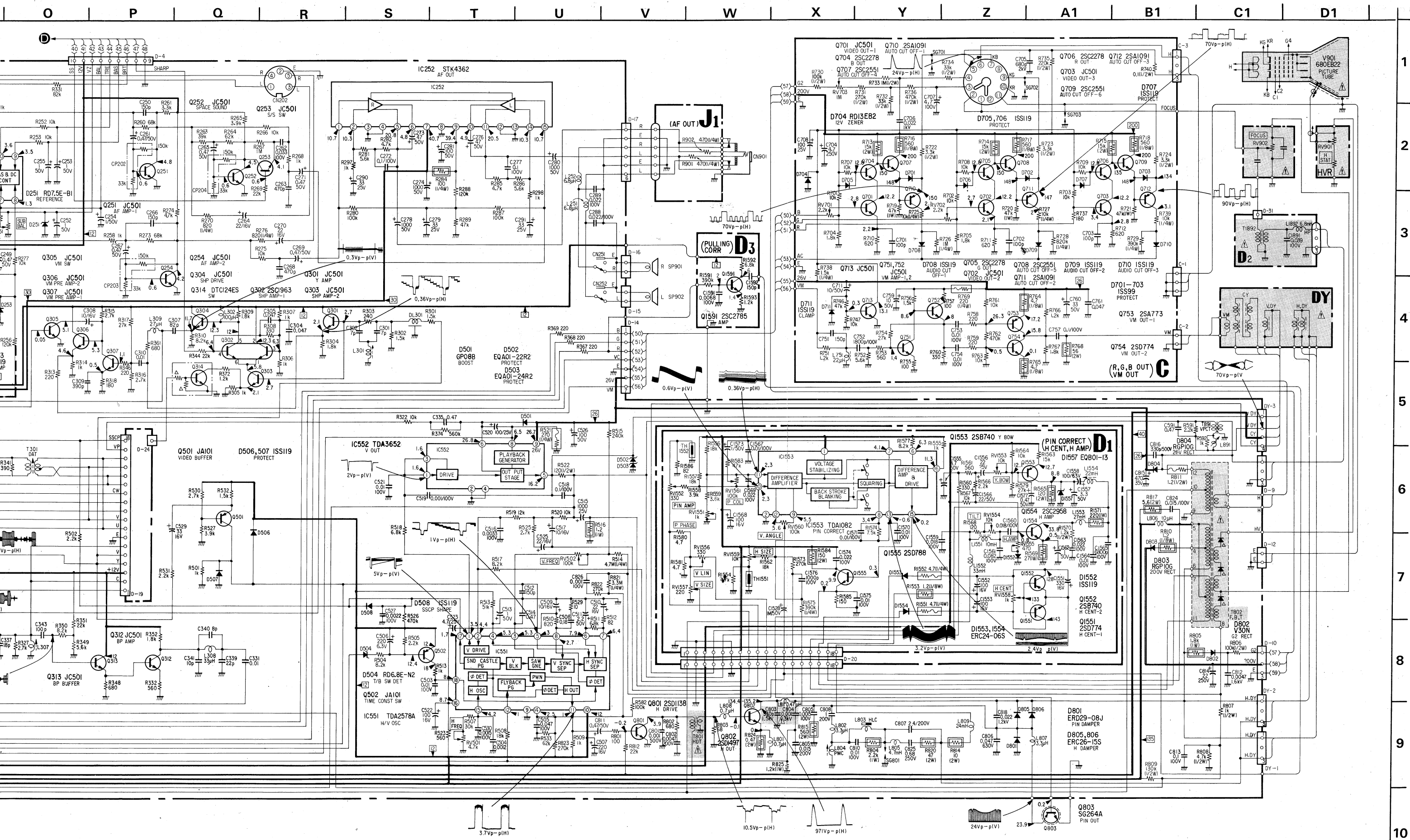


any variations may be noted due to normal production tolerances.





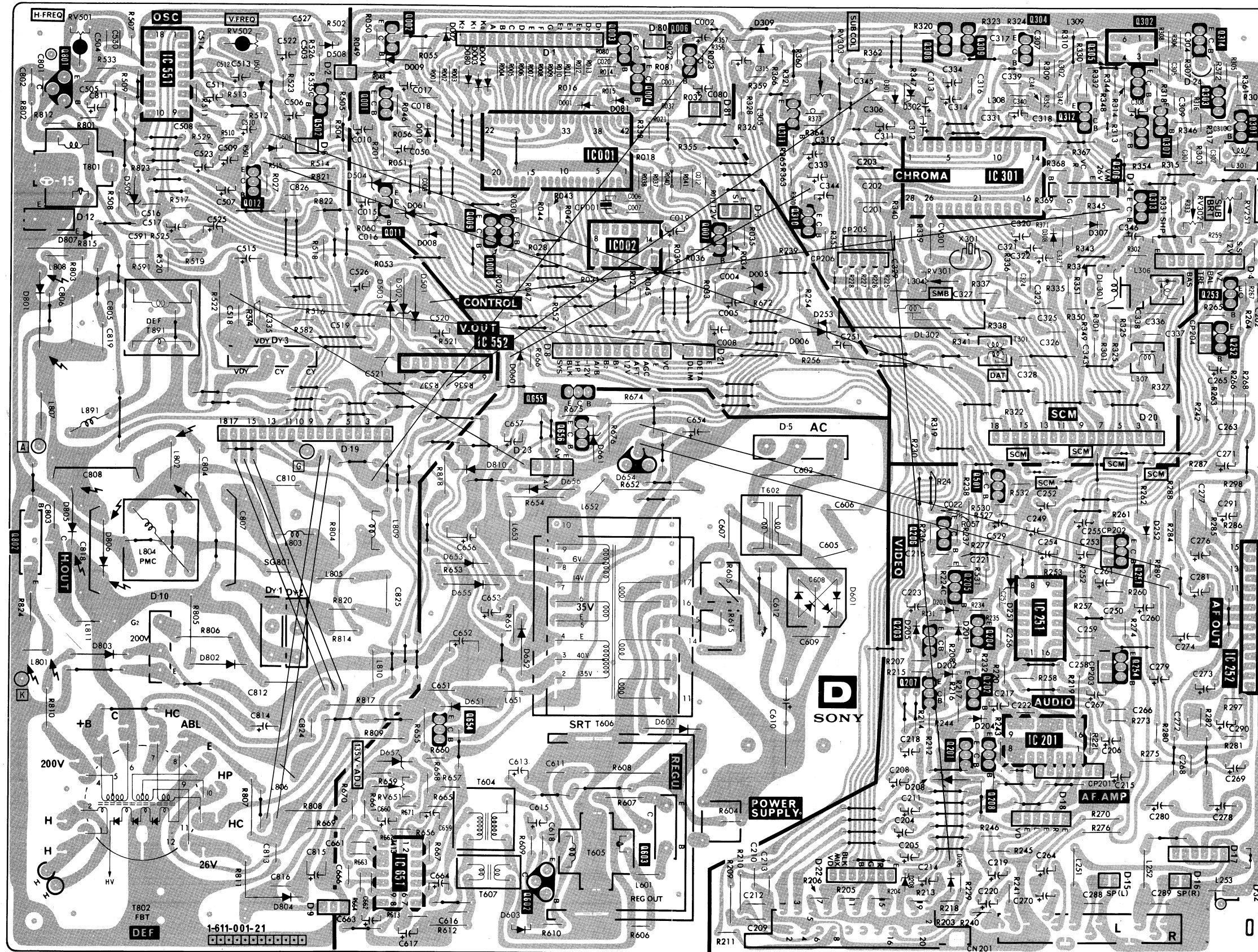




[CONTROL, PAL PROCESSOR  
HV OSC, V OUT, AF OUT, REG]

D

**- A Boi**



Q, IC	D	ADJ
308,309,314		RV501
002,003, 304	508,002	RV502
006,302	009,309	
IC551, 004,305	507,080,302	
801	003,004	
502,001 303	081,301	RV303
311, 312	001	
306,307,301	010	
IC001	506	
IC301	504	
012	509	
011 313	061	RV25
310	307	
009,008	008,308	RV302
007	807	
IC002		
	005	RV301
253	801	
	503,502,501	
252	253	
	006	
IC552	060	
655		
656	661	
	654	
501	810	
	656	
206	805	252
802 251	806	
	653	
205	655	251
	601	
IC251, IC252	203	
204	205,201	
203	652	
254	803	
	802	202
207,202		
	651	204
654	602	
IC201		
201,208	657	
	208	
		RV651
603		
IC651		
602	208,206	
	804	
	603	
Q, IC	D	ADJ

Q, IC	
D	
ADJ	
TP	

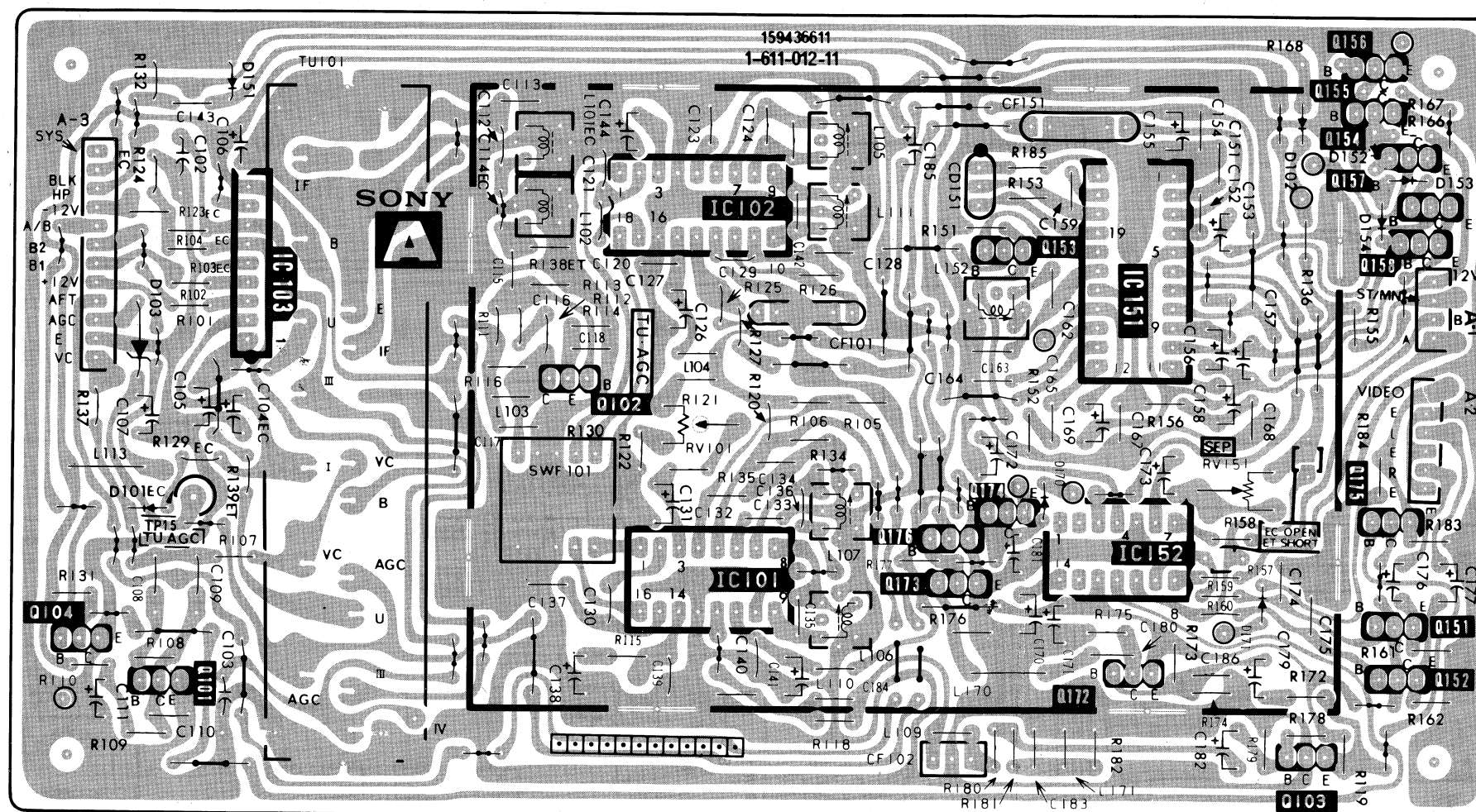


[REMOCON]  
[RECEIVE]

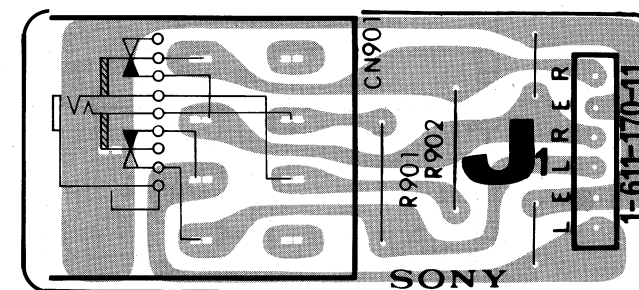
<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>O</b>
----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------

— A Board —

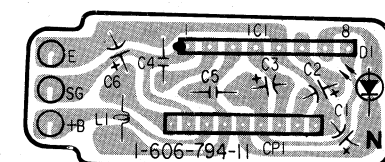
Q IC	104	101	IC103	102	IC102	176 173	153 174	IC151 IC152 172	156,155,154 157,158 175,151,152	103	Q IC
D	103 101	151								171	D
ADJ										RV151	ADJ
TP		15									TP



— J1 Board —



– N Board –



[CUSTOMER CONTROL  
INDICATOR]

**H1**

[PIN CORRECT  
H CENT, H AMP]

**D1**

**H1**

**H2**

[INDICATORE]

**D2**

[HP OUT]

**D3**

[PULLING CORR]

A

B

C

D

E

F

G

H

I

J

K

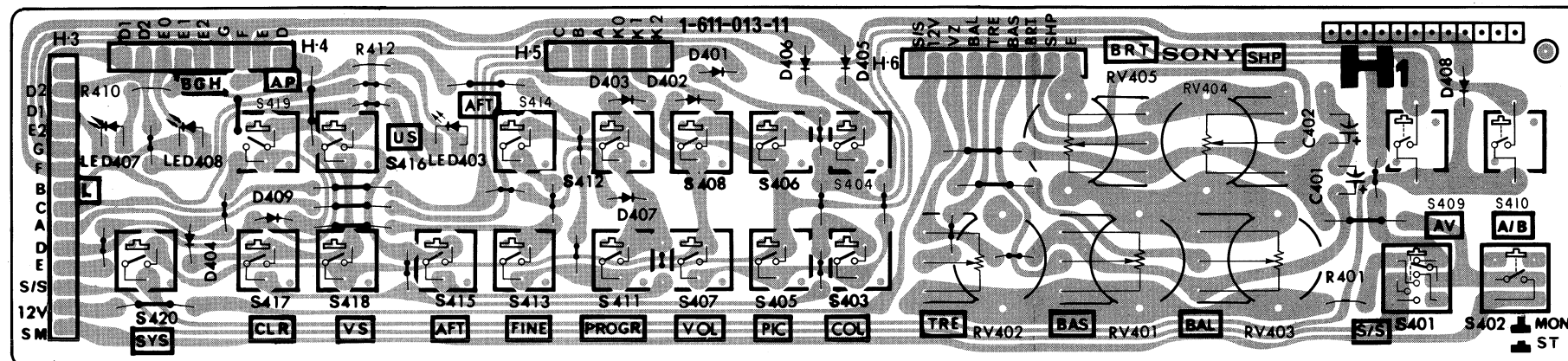
L

M

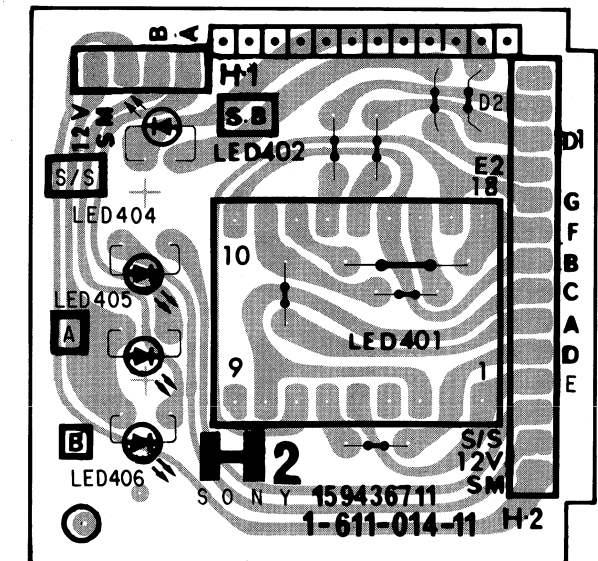
N

O

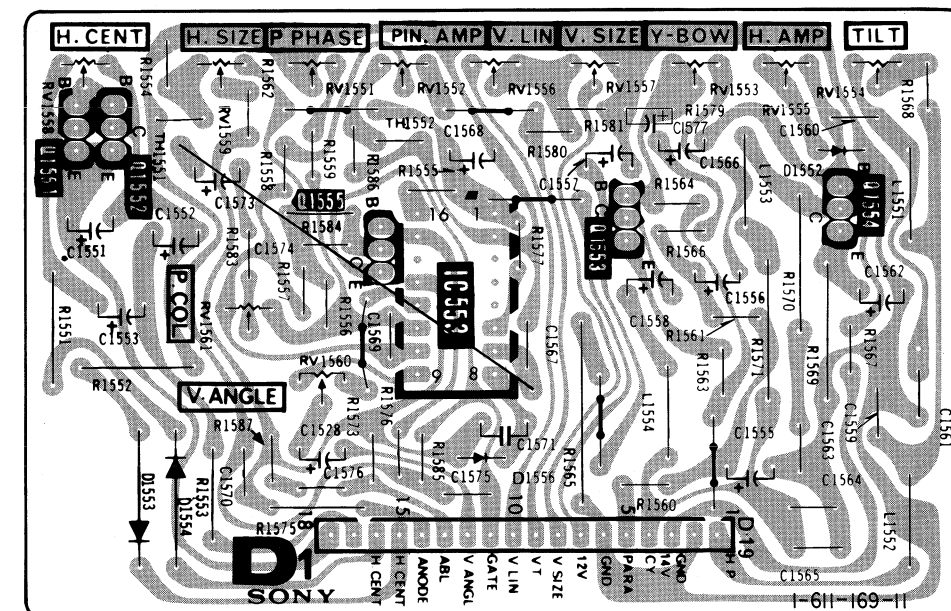
— H1 Board —



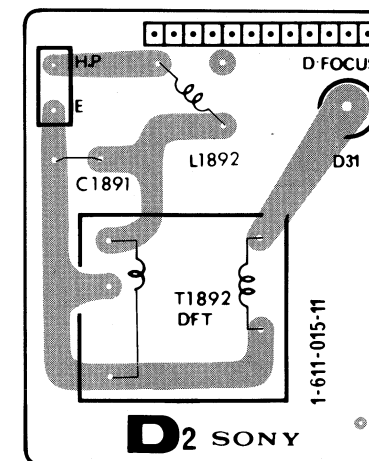
— H2 Board —



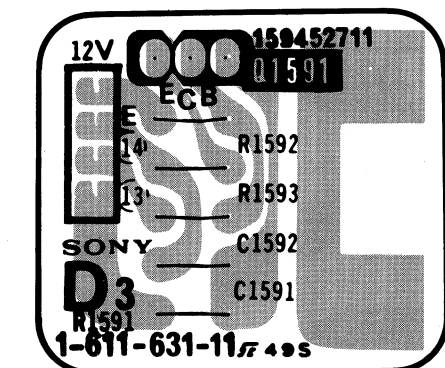
— D1 Board —



— D2 Board —



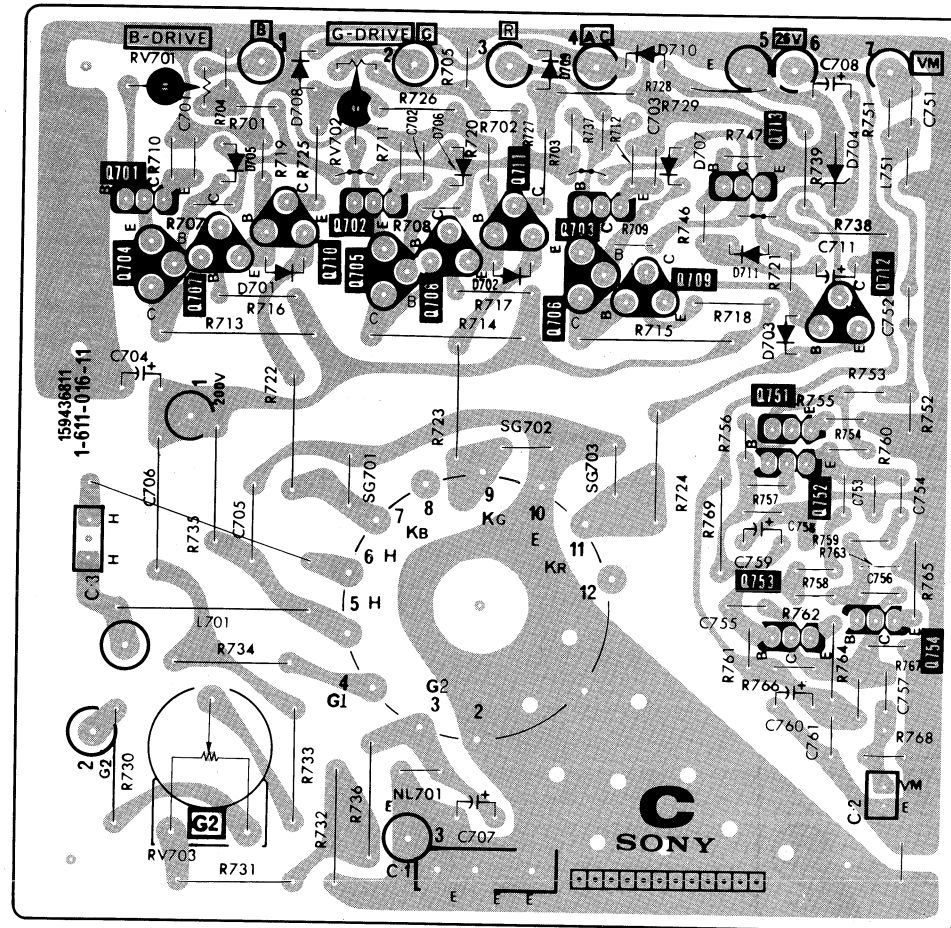
— D3 Board —



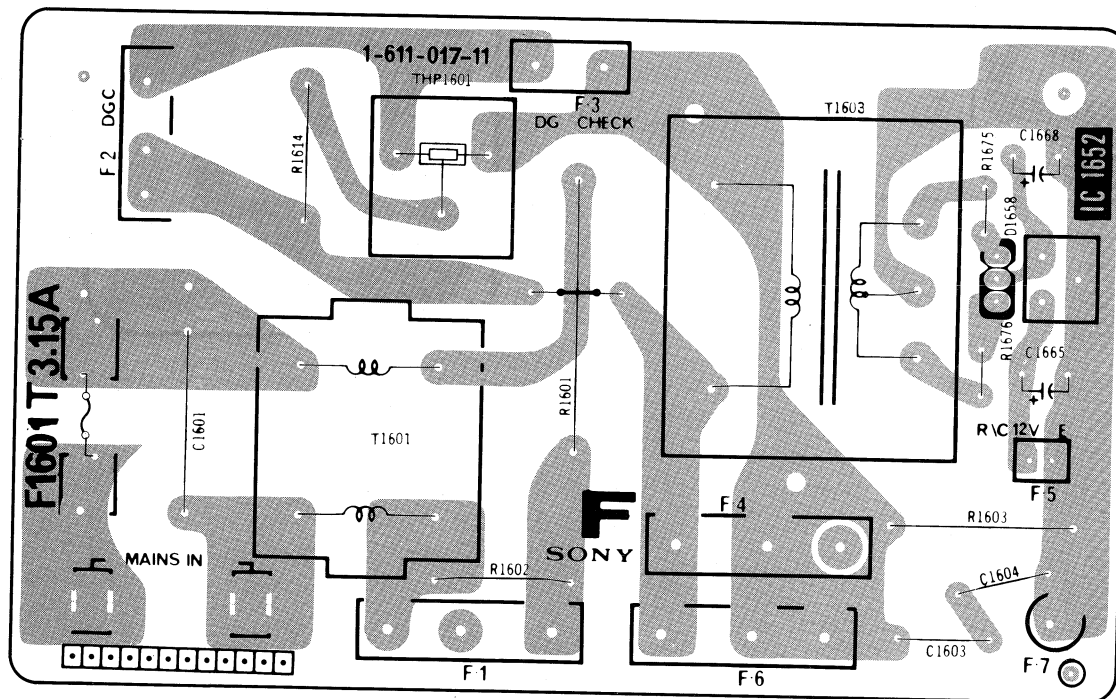
— C Board —

A B C D E F G

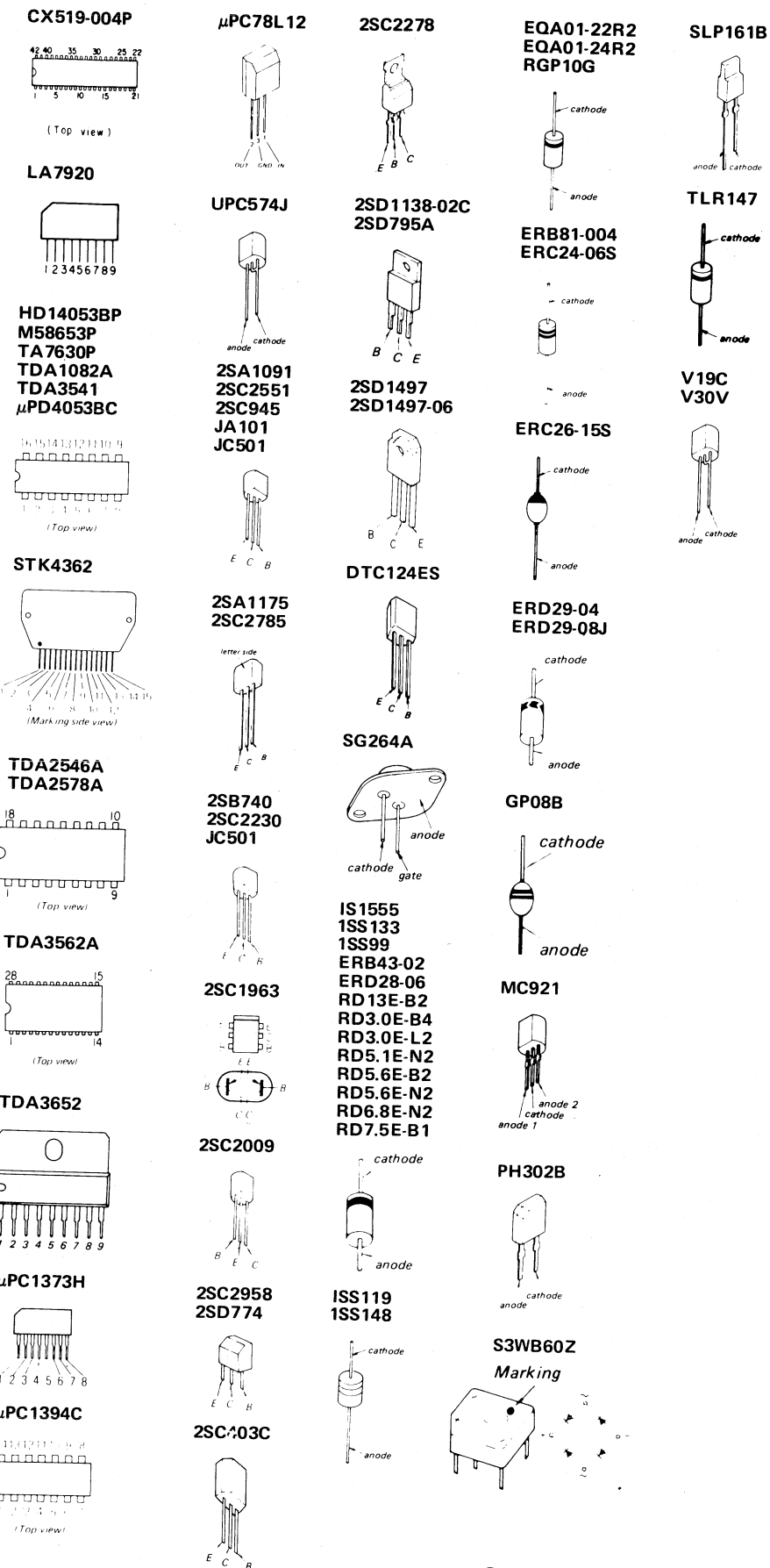
[R, G, B OUT] [VM OUT] C [REG OUT] F



— F Board —



### 3-5. SEMICONDUCTORS





—BT-883—



**Note:** Tuner reference numbers are not included in the Electrical Parts List.

## SECTION 4

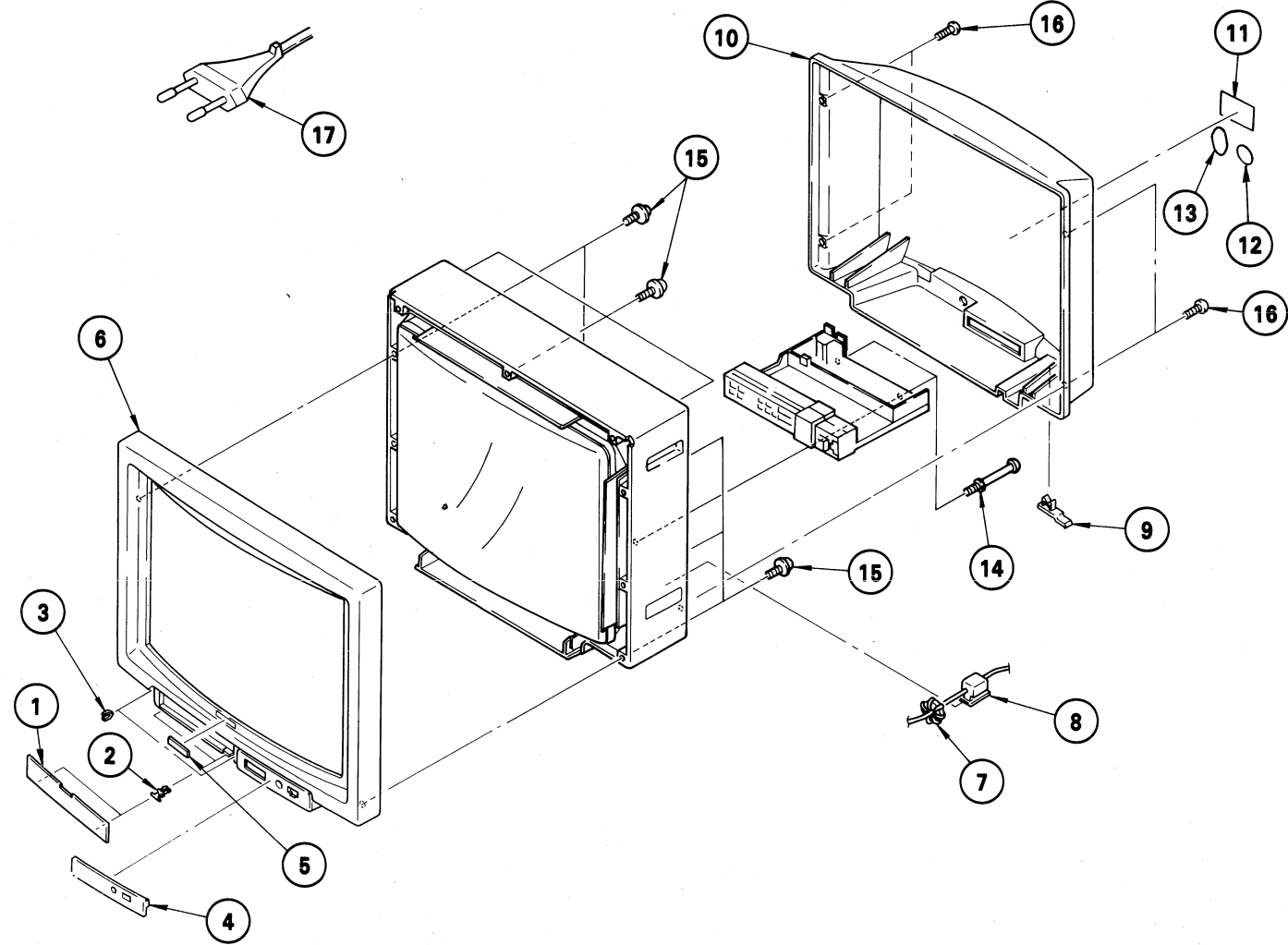
### EXPLODED VIEWS

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- As to the part numbered with E-, refer to the electrical parts list.
- Items marked "A" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

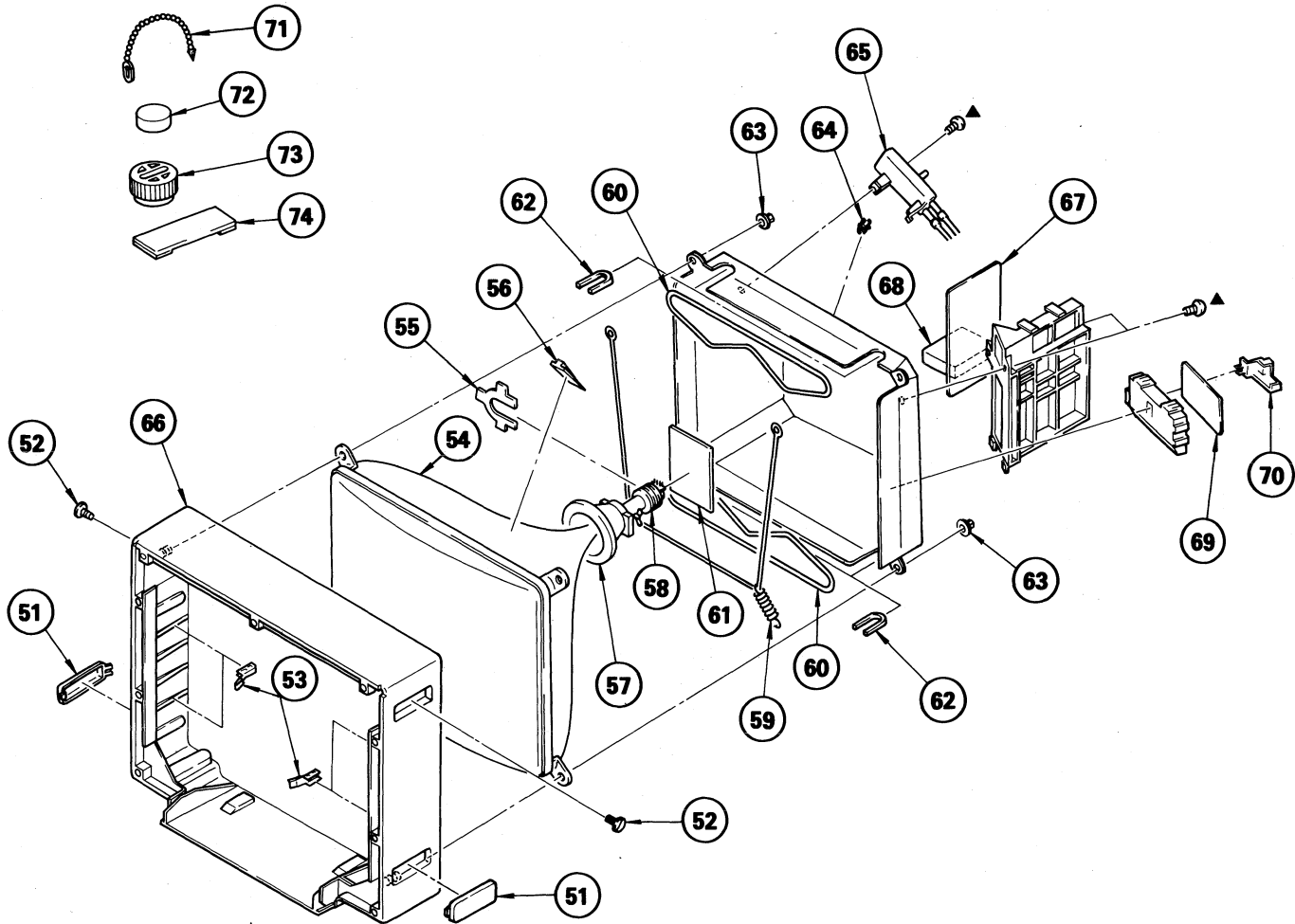
#### 4-1 BEZEL



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	X-4361-925-0	DOOR ASSY		10	4-361-927-00	COVER, BACK	
2	●:4-361-905-00	SHAFT, DOOR		11	●:4-369-704-00	LABEL, MODEL NUMBER	
3	4-342-611-00	RETAINER, DOOR		12	4-310-380-00	LABEL, DEMKO	
4	4-361-911-00	WINDOW, ORNAMENTAL, BEZEL		13	3-703-269-00	LABEL, SEV	
5	3-701-912-00	EMBLEM, SONY, (LARGE)		14	4-363-671-00	SCREW (DIA.4), SPECIAL	
6	X-4361-926-0	BEZEL ASSY	3,5	15	4-309-749-00	SCREW, TAPPING, +PW4X20	
7	1-543-179-00	CORE, RING		16	4-365-513-00	SCREW (4X16), TAPPING, SPECIAL	
8	△:4-022-115-00	HOLDER, AC CORD		17	△:1-551-427-11	CORD, POWER	
9	4-329-127-00	CLAMP, CORD					

4-2 CABINET

▲: TA, BV 4 x 12 7-685-661-14

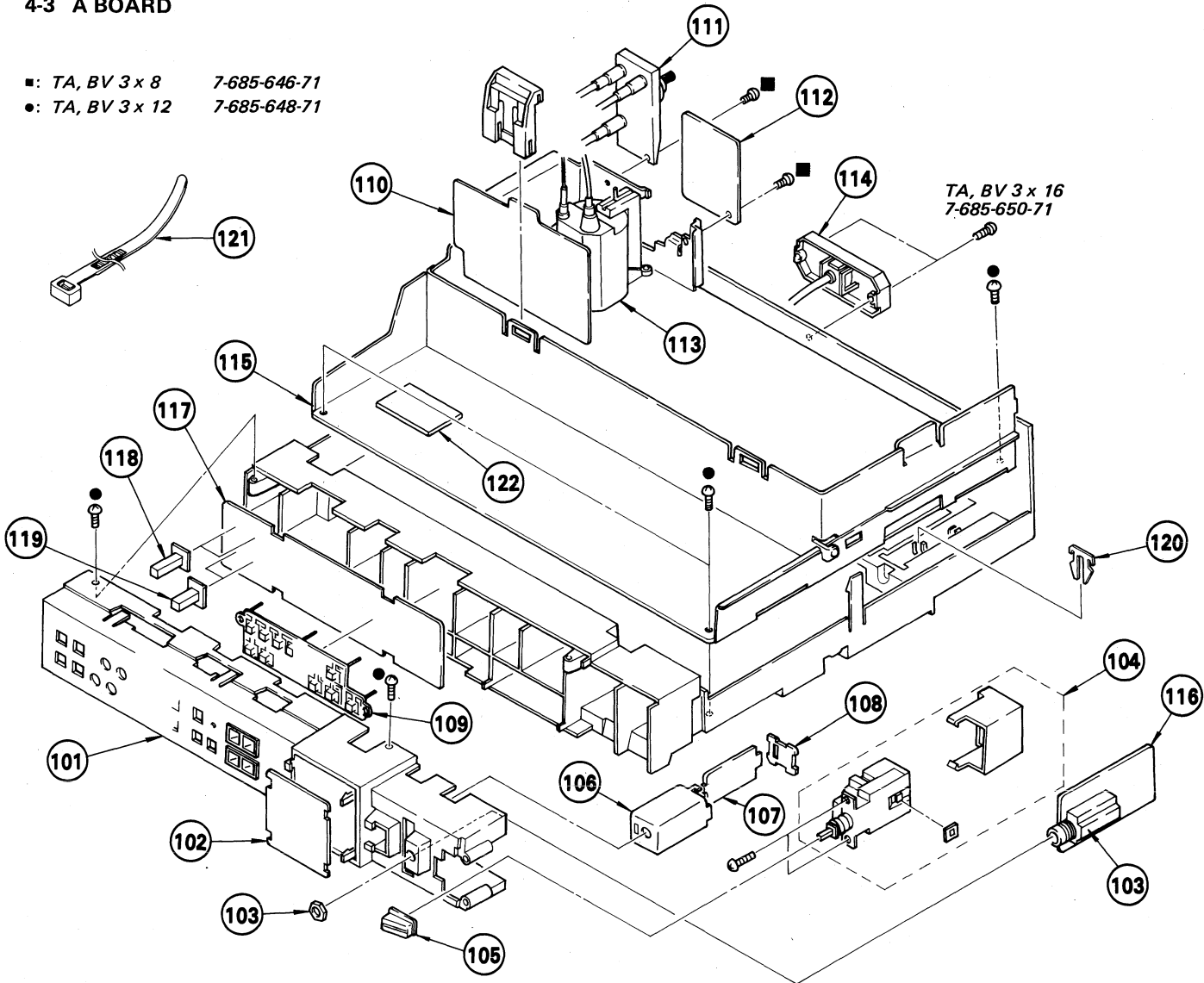


No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	4-361-907-00	PLATE, ORNAMENTAL, CABINET		63	4-330-305-00	NUT, SPECIAL	
52	4-363-611-00	SCREW, ORNAMENTAL		64	▲:4-322-922-00	HOLDER, COIL, DEGAUSSER	
53	▲:4-363-646-00	HOLDER, CORD		65	▲:1-228-544-00	RESISTOR ASSY, HIGH-VOLTAGE	
54	▲:8-738-405-05	CRT 680EB22		66	X-4361-927-2	CABINET ASSY	
55	1-452-146-00	MAGNET, BMC		67	▲:A-1295-788-A	A BOARD, SUB, COMPLETE	
56	3-703-003-00	SPACER, DY		68	▲:1-463-421-21	TUNER, ET (BT-883)	
57	▲:1-451-226-00	DEFLECTION YOKE (SY105A)		69	▲:1-611-017-00	F BOARD	
58	▲:1-452-315-00	CRT NECK ASSY (NA303)		70	▲:4-362-247-00	COVER, AC TERMINAL	
59	4-303-774-XX	SPRING		71	4-308-870-00	CLIP, LEAD WIRE	
60	▲:1-426-041-00	COIL, DEGAUSSING		72	1-452-032-00	MAGNET, DISK; 10MM ϕ	
61	▲:A-1330-470-A	C BOARD, COMPLETE		73	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
62	▲:4-330-306-00	BUSHING, CRT INSULATING		74	X-4308-815-0	PERMALLOY ASSY, CONVERGENCE	

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

4-3 A BOARD

■: TA, BV 3 x 8 7-685-646-71  
●: TA, BV 3 x 12 7-685-648-71



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
101	4-363-677-00	PANEL, CONTROL		112	▲:1-611-015-00	D2 BOARD	
102	▲:1-611-014-00	H2 BOARD		113	▲:1-439-332-00	TRANSFORMER ASSY, FLYBACK	
103	▲:1-507-657-00	JACK		114	▲:1-536-817-00	TERMINAL BOARD ASSY, ANTENNA	
104	▲:1-553-225-00	SWITCH, PUSH		115	▲:A-1345-439-A	D BOARD, SUB, COMPLETE	
105	4-364-805-00	BUTTON, POWER		116	▲:1-611-170-00	J1 BOARD	
106	▲:4-342-117-00	CASE, SHIELD (MAIN), R		117	▲:1-611-013-00	H1 BOARD	
107	▲:1-606-794-00	N BOARD		118	4-361-939-00	PUSH BUTTON (B)	
108	▲:4-342-118-00	LID, SHIELD CASE, R		119	4-361-938-00	PUSH BUTTON (A)	
109	4-363-675-00	BUTTON, MULTI		120	▲:4-369-712-01	STOPPER	
110	▲:A-1340-571-A	D1 BOARD, COMPLETE		121	3-701-748-00	CLAMP	
111	▲:1-215-066-21	RES ASSY, HIGH-VOLTAGE		122	▲:1-611-631-11	D3 BOARD	

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

# SECTION 5 ELECTRICAL PARTS LIST

**F A**

## NOTE:

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

- Items marked "●" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

## CAPACITORS

- MF :  $\mu$ F, PF :  $\mu$ PF

## RESISTORS

- All resistors are in ohms
- F : nonflammable

## COILS

- MMH : mH, UH :  $\mu$ H

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
	●:1-611-017-00	F BOARD *****					
		<u>CAPACITOR</u>				<u>CONNECTOR</u>	
C1601	A1-130-238-00	MYLAR 0.22MF 20% 300V		A1	●:1-560-124-00	PLUG, CONNECTOR (2.5MM) 4P	
C1603	A1-161-738-00	CERAMIC 0.0047MF 20% 400V		A2	●:1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P	
C1604	A1-161-738-00	CERAMIC 0.0047MF 20% 400V		A3	●:1-560-156-00	PLUG, CONNECTOR (2.5MM PITCH)	
C1655	1-123-332-00	ELECT 47MF 20% 16V				<u>CAPACITOR</u>	
C1668	1-123-346-00	ELECT 220MF 20% 35V		C102	1-108-389-00	MYLAR 0.1MF 10% 100V	
		<u>DIODE</u>		C103	1-108-389-00	MYLAR 0.1MF 10% 100V	
D1658	8-719-000-06	DIODE MC921		C104	1-123-356-00	ELECT 10MF 20% 16V	
		<u>CONNECTOR</u>		C105	1-123-356-00	ELECT 10MF 20% 16V	
F1	●:1-506-348-XX	3P PLUG (L)		C106	1-123-318-00	ELECT 33MF 20% 16V	
F2	●:1-508-765-00	3P PLUG (M)		C107	1-123-356-00	ELECT 10MF 20% 16V	
F3	●:1-508-786-00	2P PLUG (M)		C108	1-108-387-00	MYLAR 0.068MF 10% 100V	
F4	●:1-506-348-XX	3P PLUG (L)		C109	1-108-387-00	MYLAR 0.068MF 10% 100V	
F5	●:1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)		C110	1-102-963-00	CERAMIC 33PF 5% 50V	
F6	●:1-506-348-XX	3P PLUG (L)		C111	1-123-318-00	ELECT 33MF 20% 16V	
F7	●:1-508-784-00	1P PLUG		C112	1-102-530-00	CERAMIC 120PF 5% 50V	
		<u>FUSE</u>		C113	1-102-529-00	CERAMIC 100PF 5% 50V	
F1601	A1-532-237-00	FUSE, TIME-LAG 3.15A		C114	1-102-851-00	CERAMIC 15PF 5% 50V	
	1-533-087-00	HOLDER, FUSE, F1601		C115	1-102-523-00	CERAMIC 56PF 5% 50V	
		<u>IC</u>		C116	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
IC1652	8-759-178-12	IC UPC78L12		C117	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
		<u>THERMISTOR</u>		C118	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
APTH1601	1-806-387-00	THERMISTOR (POSITIVE)		C120	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
		<u>RESISTOR</u>		C121	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
R1601	A1-217-328-00	WIREWOUND 2.7 10% 7W F		C123	1-102-108-00	CERAMIC 150PF 10% 50V	
R1602	A1-202-719-00	SOLID 1M 10% 1/2W		C124	1-130-014-00	FILM 470PF 5% 50V	
R1603	A1-247-289-00	CARBON 8.2M 5% 1W		C126	1-123-318-00	ELECT 33MF 20% 16V	
R1614	A1-205-653-00	CEMENTED 100 5% 5W		C127	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
R1675	A1-247-083-00	SOLID 10 1/4W F		C128	1-101-004-00	CERAMIC 0.01MF 50V	
R1676	A1-247-083-00	SOLID 10 1/4W F		C129	1-101-004-00	CERAMIC 0.01MF 50V	
		<u>TRANSFORMER</u>		C130	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
T1601	A1-421-352-00	TRANSFORMER, FERRITE		C131	1-123-353-00	ELECT 2.2MF 20% 50V	
T1603	A1-447-703-00	TRANSFORMER, POWER		C132	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
		*****		C133	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
	●:A-1295-788-A	A BOARD, SUB, COMPLETE *****		C134	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
	●:4-363-672-00	CASE (MAIN), SHIELD, VIF		C135	1-102-525-00	CERAMIC 68PF 5% 50V	
	●:4-363-673-00	CASE (BOTTOM LID), SHIELD, VIF		C136	1-102-525-00	CERAMIC 68PF 5% 50V	
	●:4-363-674-00	CASE (UPPER LID), SHIELD, VIF		C137	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
				C138	1-123-286-00	ELECT 0.33MF 20% 50V	
				C139	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
				C140	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
				C141	1-123-318-00	ELECT 33MF 20% 16V	
				C142	1-102-525-00	CERAMIC 68PF 5% 50V	
				C143	1-101-004-00	CERAMIC 0.01MF 50V	
				C144	1-123-286-00	ELECT 0.33MF 20% 50V	
				C151	1-101-004-00	CERAMIC 0.01MF 50V	
				C152	1-101-004-00	CERAMIC 0.01MF 50V	
				C153	1-123-356-00	ELECT 10MF 20% 16V	
				C154	1-101-004-00	CERAMIC 0.01MF 50V	
				C155	1-123-332-00	ELECT 47MF 20% 16V	
				C156	1-123-306-00	ELECT 47MF 20% 10V	

**A**

Ref.No.	Part No.	Description	Remark
C157	1-123-306-00	ELECT 47MF	20% 10V
C158	1-123-379-00	ELECT 0.47MF	20% 50V
C159	1-102-816-00	CERAMIC 120PF	5% 50V
C162	1-108-570-00	MYLAR 0.0043MF	5% 50V
C163	1-130-626-00	FILM 0.033MF	5% 50V
C164	1-108-371-00	MYLAR 0.0033MF	10% 100V
C165	1-108-371-00	MYLAR 0.0033MF	10% 100V
C167	1-108-371-00	MYLAR 0.0033MF	10% 100V
C168	1-108-371-00	MYLAR 0.0033MF	10% 100V
C169	1-123-356-00	ELECT 10MF	20% 16V
C170	1-123-356-00	ELECT 10MF	20% 16V
C171	1-123-318-00	ELECT 33MF	20% 16V
C172	1-123-379-00	ELECT 0.47MF	20% 50V
C173	1-123-379-00	ELECT 0.47MF	20% 50V
C174	1-106-367-00	MYLAR 0.01MF	10% 400V
C175	1-106-367-00	MYLAR 0.01MF	10% 400V
C176	1-123-380-00	ELECT 1MF	20% 50V
C177	1-123-380-00	ELECT 1MF	20% 50V
C179	1-123-328-00	ELECT 4.7MF	20% 25V
C180	1-108-371-00	MYLAR 0.0033MF	10% 100V
C181	1-123-318-00	ELECT 33MF	20% 16V
C182	1-123-307-00	ELECT 100MF	20% 10V
C183	1-102-108-00	CERAMIC 150PF	10% 50V
C184	1-102-973-00	CERAMIC 100PF	5% 50V
C186	1-102-121-00	CERAMIC 0.0022MF	10% 50V
C188	1-102-125-00	CERAMIC 0.0047MF	10% 50V
<u>DISCRIMINATOR</u>			
CD151	1-404-501-00	DISCRIMINATOR, CERAMIC	
<u>FILTER</u>			
CF101	1-527-840-00	FILTER, CERAMIC	
CF102	1-404-134-00	TRAP, CERAMIC (5.5MHZ)	
CF151	1-527-839-00	FILTER, CERAMIC	
<u>DIODE</u>			
D101	8-719-911-19	DIODE 1SS119	
D102	8-719-911-19	DIODE 1SS119	
D103	8-719-102-71	DIODE RD5.6E-N2	
D104	8-719-911-19	DIODE 1SS119	
D151	8-719-911-19	DIODE 1SS119	
D152	8-719-911-19	DIODE 1SS119	
D153	8-719-911-19	DIODE 1SS119	
D154	8-719-911-19	DIODE 1SS119	
D170	8-719-911-19	DIODE 1SS119	
D171	8-719-911-19	DIODE 1SS119	
<u>IC</u>			
IC102	8-759-909-54	IC TDA2546A	
IC103	8-759-800-12	IC LA7920	
IC151	8-759-007-54	IC TDA4940	
IC152	8-759-007-55	IC TDA4944	

Ref.No.	Part No.	Description	Remark
<u>COIL</u>			
L101	1-404-476-00	COIL, IF	
L102	1-404-476-00	COIL, IF	
L103	1-408-593-00	MICRO INDUCTOR 1.5UH	
L104	1-408-406-00	MICRO INDUCTOR 5.6UH	
L105	1-404-477-00	COIL, IF 5.5MHZ	
L106	1-404-493-00	COIL	
L107	1-404-493-00	COIL	
L109	1-408-409-00	MICRO INDUCTOR 10UH	
L110	1-408-406-00	MICRO INDUCTOR 5.6UH	
L111	1-404-493-00	COIL 38.9MHZ	
L113	1-408-226-00	MICRO INDUCTOR 82UH	
L152	1-404-506-00	COIL, VARIABLE 2.2UH	
L170	1-408-247-00	MICRO INDUCTOR 33MMH	
L171	1-408-408-00	MICRO INDUCTOR 8.2UH	
<u>TRANSISTOR</u>			
Q101	8-729-245-83	TRANSISTOR 2SC2458	
Q102	8-765-300-00	TRANSISTOR 2SC2009	
Q103	8-729-204-83	TRANSISTOR 2SA1048-GR	
Q104	8-729-900-36	TRANSISTOR DTC124ES	
Q151	8-729-245-83	TRANSISTOR 2SC2458	
Q152	8-729-245-83	TRANSISTOR 2SC2458	
Q153	8-729-245-83	TRANSISTOR 2SC2458	
Q154	8-729-900-89	TRANSISTOR DTC144ES	
Q155	8-729-245-83	TRANSISTOR 2SC2458	
Q156	8-729-245-83	TRANSISTOR 2SC2458	
Q157	8-729-900-89	TRANSISTOR DTC144ES	
Q158	8-729-900-89	TRANSISTOR DTC144ES	
Q172	8-729-204-83	TRANSISTOR 2SA1048-GR	
Q173	8-729-245-83	TRANSISTOR 2SC2458	
Q174	8-729-245-83	TRANSISTOR 2SC2458	
Q175	8-729-245-83	TRANSISTOR 2SC2458	
<u>RESISTOR</u>			
R101	1-247-831-00	METAL 1K 5%	1/6W
R102	1-247-831-00	METAL 1K 5%	1/6W
R103	1-247-879-00	METAL 100K 5%	1/6W
R104	1-247-879-00	METAL 100K 5%	1/6W
R105	1-247-853-00	METAL 8.2K 5%	1/6W
R106	1-247-843-00	METAL 3.3K 5%	1/6W
R107	1-247-843-00	METAL 3.3K 5%	1/6W
R108	1-247-891-00	METAL 330K 5%	1/6W
R109	1-247-839-00	METAL 2.2K 5%	1/6W
R110	1-247-839-00	METAL 2.2K 5%	1/6W
R111	1-247-847-00	METAL 4.7K 5%	1/6W
R112	1-247-815-00	METAL 220 5%	1/6W
R113	1-247-845-00	METAL 3.9K 5%	1/6W
R114	1-247-815-00	METAL 220 5%	1/6W
R115	1-247-835-00	METAL 1.5K 5%	1/6W
R116	1-247-823-00	METAL 470 5%	1/6W
R118	1-247-815-00	METAL 220 5%	1/6W



H1

H2

D1

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
D405	8-719-911-19	DIODE ISS119		●:A-1340-571-A	D1 BOARD, COMPLETE	*****	
D406	8-719-911-19	DIODE ISS119					
D407	8-719-911-19	DIODE ISS119					
D408	8-719-911-19	DIODE ISS119					
D409	8-719-911-19	DIODE ISS119					
LED403	8-719-812-41	DIODE TLR124					
●:4-357-710-00	HOLDER, LED, LED403						
<u>RESISTOR</u>				<u>CAPACITOR</u>			
R401	1-247-839-00	CARBON	2.2K 5% 1/6W	C1528	1-124-038-00	ELECT	1MF 20% 50V
R412	1-247-813-00	CARBON	180 5% 1/6W	C1551	1-124-036-00	ELECT	330MF 20% 16V
<u>VARIABLE RESISTOR</u>				C1552	1-123-973-00	ELECT	100MF 20% 16V
RV401	1-228-578-00	RES, VAR, CARBON 10K		C1553	1-123-973-00	ELECT	100MF 20% 16V
RV402	1-228-578-00	RES, VAR, CARBON 10K		C1555	1-123-369-00	ELECT	4.7MF 20% 50V
RV403	1-228-578-00	RES, VAR, CARBON 10K		C1556	1-124-125-00	ELECT	22MF 20% 25V
RV404	1-228-578-00	RES, VAR, CARBON 10K		C1557	1-123-382-00	ELECT	3.3MF 20% 50V
RV405	1-228-578-00	RES, VAR, CARBON 10K		C1558	1-124-130-00	ELECT	100MF 20% 63V
<u>SWITCH</u>				C1559	1-108-380-00	MYLAR	0.018MF 10% 100V
SW401	1-554-118-00	SWITCH, PUSH		C1560	1-108-380-00	MYLAR	0.018MF 10% 100V
SW402	1-554-118-00	SWITCH, PUSH		C1561	1-108-637-00	MYLAR	0.082MF 10% 100V
SW403	1-553-329-00	SWITCH, PUSH (MONO KEY)		C1562	1-124-038-00	ELECT	1MF 20% 50V
SW404	1-553-329-00	SWITCH, PUSH (MONO KEY)		C1563	1-108-381-00	MYLAR	0.022MF 10% 100V
SW405	1-553-329-00	SWITCH, PUSH (MONO KEY)		C1564	1-129-701-00	FILM	0.01MF 5% 100V
SW406	1-553-329-00	SWITCH, PUSH (MONO KEY)		C1565	1-108-375-00	MYLAR	0.0068MF 10% 100V
SW407	1-553-329-00	SWITCH, PUSH (MONO KEY)		C1567	1-108-377-00	MYLAR	0.01MF 10% 100V
SW408	1-553-329-00	SWITCH, PUSH (MONO KEY)		C1568	1-123-973-00	ELECT	100MF 20% 16V
SW409	1-552-774-00	SWITCH, PUSH		C1569	1-108-381-00	MYLAR	0.022MF 10% 100V
SW410	1-552-774-00	SWITCH, PUSH		C1570	1-108-377-00	MYLAR	0.01MF 10% 100V
SW411	1-553-329-00	SWITCH, PUSH (MONO KEY)		C1573	1-124-038-00	ELECT	1MF 20% 50V
SW412	1-553-329-00	SWITCH, PUSH (MONO KEY)		C1574	1-108-381-00	MYLAR	0.022MF 10% 100V
SW413	1-553-329-00	SWITCH, PUSH (MONO KEY)		C1575	1-108-377-00	MYLAR	0.01MF 10% 100V
SW414	1-553-329-00	SWITCH, PUSH (MONO KEY)		C1576	1-108-365-00	MYLAR	0.001MF 10% 100V
SW415	1-553-329-00	SWITCH, PUSH (MONO KEY)		<u>CONNECTOR</u>			
SW416	1-553-329-00	SWITCH, PUSH (MONO KEY)		D19	●:1-562-370-00	CONNECTOR, BOARD TO BOARD 18P	
SW417	1-553-329-00	SWITCH, PUSH (MONO KEY)		<u>DIODE</u>			
SW418	1-553-329-00	SWITCH, PUSH (MONO KEY)		D1552	8-719-911-19	DIODE ISS119	
SW419	1-553-329-00	SWITCH, PUSH (MONO KEY)		D1553	8-719-924-06	DIODE ERC24-06S	
*****				D1554	8-719-924-06	DIODE ERC24-06S	
●:1-611-014-00	H2 BOARD	*****		D1557	8-719-931-13	DIODE EQB01-13	
●:4-361-909-00	HOLDER, LED			<u>IC</u>			
<u>DIODE</u>				IC1553	6-066-717-10	IC TDA1082	
LED401	8-719-908-08	DIODE SL1274		<u>COIL</u>			
LED402	8-719-801-07	DIODE TLR107		L1551	1-408-242-00	MICRO INDUCTOR 10MMH	
LED404	8-719-812-41	DIODE TLR124		L1552	1-408-247-00	MICRO INDUCTOR 33MMH	
LED405	8-719-812-41	DIODE TLR124		L1553	1-407-509-00	MICRO INDUCTOR 27MMH	
LED406	8-719-812-41	DIODE TLR124		L1554	1-408-245-00	MICRO INDUCTOR 22MMH	
				<u>TRANSISTOR</u>			
				Q1551	8-729-177-43	TRANSISTOR 2SD774-4	
				Q1552	8-729-103-43	TRANSISTOR 2SB734-4	
				Q1553	8-729-103-43	TRANSISTOR 2SB734-4	
				Q1554	8-729-195-82	TRANSISTOR 2SC2958	
				Q1555	8-729-378-84	TRANSISTOR 2SD788	

**D1****D2****D3****D**

Ref.No.	Part No.	Description	Remark
<u>RESISTOR</u>			
R1551	1-212-849-00	FUSIBLE	4.7 5% 1/4W F
R1552	1-212-849-00	FUSIBLE	4.7 5% 1/4W F
R1553	1-210-859-00	CARBON	1.2 5% 1/8W F
R1554	1-247-847-00	CARBON	4.7K 5% 1/6W
R1555	1-247-831-00	CARBON	1K 5% 1/6W
R1556	1-247-861-00	CARBON	18K 5% 1/6W
R1557	1-247-861-00	CARBON	18K 5% 1/6W
R1558	1-247-845-00	CARBON	3.9K 5% 1/6W
R1559	1-247-844-00	CARBON	3.6K 5% 1/6W
R1560	1-247-819-00	CARBON	330 5% 1/6W
R1561	1-247-825-00	CARBON	560 5% 1/6W
R1562	1-247-861-00	CARBON	18K 5% 1/6W
R1563	1-247-787-00	CARBON	15 5% 1/6W
R1564	1-247-855-00	CARBON	10K 5% 1/6W
R1565	1-206-642-00	METAL OXIDE	120 5% 2W F
R1567	1-247-855-00	CARBON	10K 5% 1/6W
R1568	1-247-809-00	CARBON	120 5% 1/6W
R1569	1-213-124-00	METAL OXIDE	27 5% 1W F
R1570	1-244-875-00	CARBON	1.2K 5% 1/2W
R1571	1-213-135-00	METAL OXIDE	220 5% 1W F
R1573	1-247-889-00	CARBON	270K 5% 1/6W
R1574	1-247-855-00	CARBON	10K 5% 1/6W
R1575	1-246-519-00	CARBON	82K 5% 1/4W
R1577	1-247-853-00	CARBON	8.2K 5% 1/6W
R1579	1-247-865-00	CARBON	27K 5% 1/6W
R1580	1-247-775-00	CARBON	4.7 5% 1/6W
R1581	1-247-775-00	CARBON	4.7 5% 1/6W
R1583	1-247-871-00	CARBON	47K 5% 1/6W
R1584	1-217-226-00	WIREWOUND	150 10% 2W F
R1585	1-247-811-00	CARBON	150 5% 1/6W
R1586	1-247-805-00	CARBON	82 5% 1/6W
R1587	1-247-889-00	CARBON	270K 5% 1/6W
R1588	1-247-831-00	CARBON	1K 5% 1/6W
<u>VARIABLE RESISTOR</u>			
RV1551	1-230-230-00	RES, ADJ, CERAMIC CARBON	1K
RV1552	1-230-228-00	RES, ADJ, CERAMIC CARBON	330
RV1553	1-228-824-00	RES, ADJ, CERAMIC CARBON	10K
RV1554	1-228-824-00	RES, ADJ, CERAMIC CARBON	10K
RV1555	1-230-229-00	RES, ADJ, CERAMIC CARBON	470
RV1556	1-230-228-00	RES, ADJ, CERAMIC CARBON	330
RV1557	1-230-227-00	RES, ADJ, CERAMIC CARBON	220
RV1558	1-230-230-00	RES, ADJ, CERAMIC CARBON	1K
RV1559	1-228-824-00	RES, ADJ, CERAMIC CARBON	10K
RV1560	1-230-237-00	RES, ADJ, CERAMIC CARBON	100K
RV1561	1-230-237-00	RES, ADJ, CERAMIC CARBON	100K
<u>THERMISTOR</u>			
TH1551	1-800-625-00	THERMISTOR	
TH1552	1-806-110-00	THERMISTOR	

Ref.No.	Part No.	Description	Remark
●:1-611-015-00	D2 BOARD	*****	
<u>CAPACITOR</u>			
C1891A	1-108-384-00	MYLAR	0.039MF 10% 100V
<u>COIL</u>			
L1892A	1-459-074-00	COIL, DUST CORE 6.8MMH(HCC)	
<u>TRANSFORMER</u>			
T1892A	1-407-849-00	TRANSFORMER, D.F	
*****			
●:1-611-631-11	D3 BOARD	*****	
<u>CAPACITOR</u>			
C1591	1-108-375-00	MYLAR	0.0063MF 10% 100V
C1592	1-102-980-00	CERAMIC	270PF 5% 50V
<u>TRANSISTOR</u>			
Q1591	8-729-245-83	TRANSISTOR 2SC2458	
<u>RESISTOR</u>			
R1591	1-247-893-00	CARBON	390K 5% 1/6W
R1592	1-247-851-00	CARBON	6.8K 5% 1/6W
R1593	1-247-833-00	CARBON	1.2K 5% 1/6W
*****			
●:A-1345-439-A	D BOARD, SUB, COMPLETE	*****	
1-536-813-00	TERMINAL BOARD, INPUT OUTPUT		
●:3-646-071-00	HOLDER, WIRE		
3-701-748-00	CLAMP		
4-343-134-00	RETAINER, AC CORD		
●:4-363-404-00	HOLDER, IC		
4-363-414-00	SPACER, MICA		
●:4-368-658-01	INSULATOR (H)		
●:4-368-659-01	INSULATOR (R)		
<u>CAPACITOR</u>			
C002	1-123-381-00	ELECT	2.2MF 20% 50V
C003	1-102-973-00	CERAMIC	100PF 5% 50V
C004	1-108-389-00	MYLAR	0.1MF 10% 100V
C005	1-123-356-00	ELECT	10MF 20% 50V
C006	1-102-959-00	CERAMIC	22PF 5% 50V
C007	1-102-963-00	CERAMIC	33PF 5% 50V
C008	1-123-356-00	ELECT	10MF 20% 50V
C009	1-102-114-00	CERAMIC	470PF 10% 50V
C010	1-123-328-00	ELECT	4.7MF 20% 25V
C012	1-101-004-00	CERAMIC	0.01MF 50V

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description			Remark	Ref.No.	Part No.	Description			Remark
C015	1-123-333-00	ELECT	100MF	20%	16V	C272	1-108-389-00	MYLAR	0.1MF	10%	100V
C016	1-101-810-00	CERAMIC	100PF	5%	500V	C273	1-123-359-00	ELECT	47MF	20%	50V
C018	1-108-389-00	MYLAR	0.1MF	10%	100V	C274	1-123-364-00	ELECT	1000MF	20%	50V
C019	1-123-332-00	ELECT	47MF	20%	25V	C276	1-123-359-00	ELECT	47MF	20%	50V
C020	1-102-030-00	CERAMIC	330PF	10%	500V	C277	1-108-389-00	MYLAR	0.1MF	10%	100V
C021A	1-123-307-00	ELECT	100MF	20%	10V	C278	1-123-364-00	ELECT	1000MF	20%	50V
C022	1-102-125-00	CERAMIC	0.0047MF	10%	50V	C279	1-123-331-00	ELECT	33MF	20%	25V
C050	1-123-381-00	ELECT	2.2MF	20%	50V	C280	1-123-364-00	ELECT	1000MF	20%	50V
C201	1-108-389-00	MYLAR	0.1MF	10%	100V	C281	1-123-360-00	ELECT	100MF	20%	50V
C202	1-108-389-00	MYLAR	0.1MF	10%	100V	C288	1-108-381-00	MYLAR	0.022MF	10%	100V
C203	1-108-389-00	MYLAR	0.1MF	10%	100V	C289	1-108-381-00	MYLAR	0.022MF	10%	100V
C204	1-123-356-00	ELECT	10MF	20%	16V	C290	1-123-331-00	ELECT	33MF	20%	25V
C205	1-123-356-00	ELECT	10MF	20%	16V	C291	1-123-331-00	ELECT	33MF	20%	25V
C206	1-123-318-00	ELECT	33MF	20%	16V	C301	1-102-809-00	CERAMIC	7PF	1PF	50V
C208	1-123-380-00	ELECT	1MF	20%	50V	C302	1-102-809-00	CERAMIC	7PF	1PF	50V
C209	1-102-114-00	CERAMIC	470PF	10%	50V	C304	1-101-006-00	CERAMIC	0.047MF		50V
C210	1-102-074-00	CERAMIC	0.001MF	10%	50V	C305	1-101-006-00	CERAMIC	0.047MF		50V
C211	1-123-380-00	ELECT	1MF	20%	50V	C307	1-102-971-00	CERAMIC	82PF	5%	50V
C212	1-102-114-00	CERAMIC	470PF	10%	50V	C308	1-123-356-00	ELECT	10MF	20%	16V
C213	1-102-074-00	CERAMIC	0.001MF	10%	50V	C309	1-102-113-00	CERAMIC	390PF	10%	50V
C214	1-123-309-00	ELECT	330MF	20%	10V	C310	1-101-004-00	CERAMIC	0.01MF		50V
C215	1-123-332-00	ELECT	47MF	20%	16V	C311	1-123-323-00	ELECT	470MF	20%	16V
C216	1-108-383-00	MYLAR	0.033MF	10%	100V	C312	1-123-286-00	ELECT	0.33MF	20%	50V
C217	1-123-356-00	ELECT	10MF	20%	16V	C313	1-123-328-00	ELECT	4.7MF	20%	25V
C218	1-123-332-00	ELECT	47MF	20%	16V	C314	1-123-381-00	ELECT	2.2MF	20%	50V
C219	1-123-380-00	ELECT	1MF	20%	50V	C315	1-123-381-00	ELECT	2.2MF	20%	50V
C220	1-123-380-00	ELECT	1MF	20%	50V	C316	1-101-880-00	CERAMIC	47PF	5%	50V
C221	1-108-367-00	MYLAR	0.0015MF	10%	100V	C317	1-108-381-00	MYLAR	0.022MF	10%	100V
C222	1-101-004-00	CERAMIC	0.01MF		50V	C318	1-131-345-00	TANTALUM	0.47MF	20%	35V
C223	1-123-333-00	ELECT	100MF	20%	16V	C319	1-123-330-00	ELECT	22MF	20%	16V
C249	1-123-379-00	ELECT	0.47MF	20%	50V	C320	1-123-380-00	ELECT	1MF	20%	50V
C250	1-102-108-00	CERAMIC	150PF	10%	50V	C321	1-131-345-00	TANTALUM	0.47MF	20%	35V
C251	1-123-380-00	ELECT	1MF	20%	50V	C322	1-131-345-00	TANTALUM	0.47MF	20%	35V
C252	1-123-380-00	ELECT	1MF	20%	50V	C323	1-102-110-00	CERAMIC	220PF	10%	50V
C253	1-123-380-00	ELECT	1MF	20%	50V	C324	1-102-110-00	CERAMIC	220PF	10%	50V
C254	1-123-380-00	ELECT	1MF	20%	50V	C325	1-130-640-00	FILM	0.47MF	5%	50V
C255	1-123-380-00	ELECT	1MF	20%	50V	C326	1-130-640-00	FILM	0.47MF	5%	50V
C256	1-108-373-00	MYLAR	0.0047MF	10%	100V	C327	1-121-705-00	ELECT	2.2MF	30%	25V
C257	1-108-390-00	MYLAR	0.12MF	10%	100V	C328	1-102-973-00	CERAMIC	100PF	5%	50V
C258	1-108-373-00	MYLAR	0.0047MF	10%	100V	C329	1-101-004-00	CERAMIC	0.01MF		50V
C259	1-108-390-00	MYLAR	0.12MF	10%	100V	C331	1-102-129-00	CERAMIC	0.01MF	10%	50V
C260	1-123-323-00	ELECT	470MF	20%	16V	C332	1-102-973-00	CERAMIC	100PF	5%	50V
C261	1-123-379-00	ELECT	0.47MF	20%	50V	C333	1-123-318-00	ELECT	33MF	20%	16V
C262	1-108-383-00	MYLAR	0.033MF	10%	100V	C334	1-123-356-00	ELECT	10MF	20%	16V
C263	1-102-114-00	CERAMIC	470PF	10%	50V	C335	1-130-640-00	FILM	0.47MF	5%	50V
C264	1-123-330-00	ELECT	22MF	20%	16V	C336	1-102-858-00	CERAMIC	10PF	0.5PF	50V
C265	1-123-379-00	ELECT	0.47MF	20%	50V	C337	1-102-888-00	CERAMIC	150PF	5%	50V
C266	1-102-108-00	CERAMIC	150PF	10%	50V	C337A	1-102-676-00	CERAMIC	68PF	5%	50V
C267	1-123-379-00	ELECT	0.47MF	20%	50V	C338	1-102-884-00	CERAMIC	33PF	5%	50V
C268	1-102-114-00	CERAMIC	470PF	10%	50V	C339	1-102-959-00	CERAMIC	22PF	5%	50V
C269	1-123-379-00	ELECT	0.47MF	20%	50V	C340	1-102-945-00	CERAMIC	8PF	1PF	50V
C270	1-123-330-00	ELECT	22MF	20%	16V	C341	1-102-947-00	CERAMIC	10PF	5%	50V
C271	1-123-379-00	ELECT	0.47MF	20%	50V	C343	1-102-973-00	CERAMIC	100PF	5%	50V

**D**

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C344	1-123-379-00	ELECT	0.47MF 20% 50V	C660	1-123-380-00	ELECT	1MF 20% 50V
C345	1-130-634-00	FILM	0.15MF 5% 50V	C661	1-108-374-00	MYLAR	0.0056MF 10% 100V
C346	1-123-333-00	ELECT	100MF 20% 16V	C662	1-130-022-00	FILM	0.0022MF 5% 50V
C503	1-108-377-00	MYLAR	0.01MF 10% 100V	C663	1-123-330-00	ELECT	22MF 20% 16V
C504	1-130-019-00	FILM	0.0012MF 5% 50V	C664	1-123-354-00	ELECT	3.3MF 20% 50V
C505	1-108-385-00	MYLAR	0.047MF 10% 100V	C666	1-101-810-00	CERAMIC	100PF 5% 500V
C506	1-123-296-00	ELECT	220MF 20% 6.3V	C801	1-102-038-00	CERAMIC	0.001MF 500V
C507	1-123-321-00	ELECT	220MF 20% 16V	C802	1-108-417-00	MYLAR	0.0047MF 10% 200V
C508	1-130-635-00	FILM	0.18MF 5% 50V	C803	1-102-327-00	CERAMIC	330PF 15% 1.5KV
C509	1-123-356-00	ELECT	10MF 20% 16V	C804	1-161-754-00	CERAMIC	0.001MF 10% 3KV
C510	1-123-330-00	ELECT	22MF 20% 16V	C805	1-108-423-00	MYLAR	0.015MF 10% 200V
C511	1-123-381-00	ELECT	2.2MF 20% 50V	C806	1-129-722-00	FILM	0.047MF 10% 630V
C512	1-102-108-00	CERAMIC	150PF 10% 50V	C807	1-136-186-00	FILM	2.4MF 5% 200V
C513	1-123-380-00	ELECT	1MF 20% 50V	C808	1-136-116-00	FILM	1MF 5% 200V
C514	1-130-640-00	FILM	0.47MF 5% 50V	C810	1-108-377-00	MYLAR	0.01MF 10% 100V
C515	1-123-337-00	ELECT	1000MF 20% 25V	C811	1-123-379-00	ELECT	0.47MF 20% 50V
C516	1-108-371-00	MYLAR	0.0033MF 10% 100V	C812	1-102-223-00	CERAMIC	0.0047MF 10% 2KV
C517	1-131-371-00	TANTALUM	10MF 10% 16V	C813	1-108-389-00	MYLAR	0.1MF 10% 100V
C518	1-108-389-00	MYLAR	0.1MF 10% 100V	C814	1-123-005-00	ELECT	22MF 250V
C519	1-108-365-00	MYLAR	0.001MF 10% 100V	C815	1-123-348-00	ELECT	470MF 20% 35V
C520	1-123-333-00	ELECT	100MF 20% 25V	C816	1-102-030-00	CERAMIC	330PF 10% 500V
C521	1-108-377-00	MYLAR	0.01MF 10% 100V	C818	1-130-894-00	FILM	0.022MF 3% 1.2KV
C522	1-123-333-00	ELECT	100MF 20% 16V	C819	1-129-704-00	FILM	0.0015MF 10% 630V
C525	1-123-330-00	ELECT	22MF 20% 16V	C824	1-108-381-00	MYLAR	0.022MF 10% 100V
C526	1-123-360-00	ELECT	100MF 20% 50V	C825	1-136-184-00	MYLAR	0.68MF 10% 250V
C527	1-108-373-00	MYLAR	0.0047MF 10% 100V	C826	1-108-365-00	MYLAR	0.001MF 10% 100V
C529	1-123-318-00	ELECT	33MF 20% 16V				
C530	1-108-367-00	MYLAR	0.0015MF 10% 100V				
C531	1-123-356-00	ELECT	10MF 20% 16V				
C532	1-123-319-00	ELECT	47MF 20% 16V				
C533	1-123-379-00	ELECT	0.47MF 20% 50V				
C591	1-130-640-00	FILM	0.47MF 5% 50V				
C602	1-108-747-00	MYLAR	0.1MF 20% 300V				
C605	1-161-738-00	CERAMIC	0.0047MF 20% 400V				
C606	1-161-738-00	CERAMIC	0.0047MF 20% 400V				
C607	1-161-964-00	CERAMIC	0.0047MF 250V				
C608	1-161-964-00	CERAMIC	0.0047MF 250V				
C609	1-161-964-00	CERAMIC	0.0047MF 250V				
C610	1-125-167-00	ELECT(BLOCK)	250MF 400V				
C611	1-108-381-00	MYLAR	0.022MF 10% 100V				
C612	1-136-064-00	FILM	0.002MF 3% 2KV				
C613	1-123-381-00	ELECT	2.2MF 20% 100V				
C615	1-123-354-00	ELECT	3.3MF 20% 50V				
C616	1-102-121-00	CERAMIC	0.0022MF 10% 50V				
C617	1-123-354-00	ELECT	3.3MF 20% 50V				
C618	1-108-409-00	MYLAR	0.001MF 10% 200V				
C651	1-102-155-00	CERAMIC	330PF 20% 2KV				
C652	1-124-347-00	ELECT	100MF 20% 160V				
C653	1-123-372-00	ELECT	33MF 20% 50V				
C654	1-123-364-00	ELECT	1000MF 20% 50V				
C656	1-123-606-00	ELECT	1000MF 20% 25V				
C657	1-123-311-00	ELECT	1000MF 20% 10V				
C659	1-123-354-00	ELECT	3.3MF 20% 50V				

FILTER

CF001 1-527-790-00 OSCILLATOR, CERAMIC

CONNECTOR

CN201 1-561-534-00 SOCKET, PIN 21P

TRIMMER

CV301 1-141-181-11 CAP, TRIMMER

CONNECTOR

D1	1-560-288-00	PLUG, CONNECTOR (2.5MM PITCH)
D2	1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)
D3	1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D4	1-560-129-00	PLUG, CONNECTOR (2.5MM) 9P
D5	1-506-348-XX	3P PLUG (L)
D6	1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)
D8	1-560-156-00	PLUG, CONNECTOR (2.5MM PITCH)
D9	1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D10	1-508-765-00	3P PLUG (M)
D12	1-508-786-00	2P PLUG (M)
D14	1-560-127-00	PLUG, CONNECTOR (2.5MM) 7P
D15	1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)
D16	1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)
D17	1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P
D18	1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

A

C

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R119	1-247-823-00	METAL	470 5% 1/6W	TUNER			
R120	1-247-871-00	METAL	47K 5% 1/6W	*****			
R122	1-247-855-00	METAL	10K 5% 1/6W	TU101A 1-463-421-21 TUNER, ET (BT-883)			
R123	1-247-861-00	METAL	18K 5% 1/6W	*****			
R124	1-247-857-00	METAL	12K 5% 1/6W	A-1330-470-A C BOARD, COMPLETE			
R125	1-247-829-00	METAL	820 5% 1/6W	*****			
R126	1-247-829-00	METAL	820 5% 1/6W	1-526-644-41 SOCKET, CRT			
R127	1-247-829-00	METAL	820 5% 1/6W	CONNECTOR			
R129	1-247-886-00	METAL	200K 5% 1/6W	C1 A-1-508-765-00 3P PLUG (M)			
R131	1-247-871-00	METAL	47K 5% 1/6W	C2 A-1-560-290-00 PLUG, CONNECTOR (2.5MM PITCH)			
R132	1-247-855-00	METAL	10K 5% 1/6W	C3 A-1-560-123-00 PLUG, CONNECTOR (2.5MM) 3P			
R134	1-247-875-00	METAL	68K 5% 1/6W	CAPACITOR			
R135	1-247-873-00	METAL	56K 5% 1/6W	C701	1-102-973-00	CERAMIC	100PF 5% 50V
R136	1-247-863-00	METAL	22K 5% 1/6W	C702	1-102-973-00	CERAMIC	100PF 5% 50V
R137	1-247-863-00	METAL	22K 5% 1/6W	C703	1-102-973-00	CERAMIC	100PF 5% 50V
R151	1-247-831-00	METAL	1K 5% 1/6W	C704	1-121-759-00	ELECT	4.7MF 250V
R152	1-247-869-00	METAL	39K 5% 1/6W	C705	1-102-249-00	CERAMIC	680PF 20% 2KV
R153	1-247-821-00	METAL	390 5% 1/6W	C706	1-129-779-00	FILM	0.022MF 20% 1KV
R155	1-247-863-00	METAL	22K 5% 1/6W	C707	1-123-383-00	ELECT	4.7MF 20% 100V
R156	1-247-877-00	METAL	82K 5% 1/6W	C708	1-123-333-00	ELECT	100MF 20% 25V
R157	1-247-833-00	METAL	1.2K 5% 1/6W	C711	1-123-356-00	ELECT	10MF 20% 50V
R158	1-247-833-00	METAL	1.2K 5% 1/6W	C751	1-101-361-00	CERAMIC	150PF 5% 50V
R159	1-247-847-00	METAL	4.7K 5% 1/6W	C752	1-106-178-00	MYLAR	0.0018MF 10% 100V
R160	1-247-847-00	METAL	4.7K 5% 1/6W	C753	1-108-377-00	MYLAR	0.01MF 10% 100V
R161	1-247-847-00	METAL	4.7K 5% 1/6W	C754	1-108-377-00	MYLAR	0.01MF 10% 100V
R162	1-247-847-00	METAL	4.7K 5% 1/6W	C757	1-108-389-00	MYLAR	0.1MF 10% 100V
R166	1-247-843-00	METAL	3.3K 5% 1/6W	C759	1-123-356-00	ELECT	10MF 20% 50V
R167	1-247-867-00	METAL	33K 5% 1/6W	C760	1-123-358-00	ELECT	33MF 20% 50V
R168	1-247-863-00	METAL	22K 5% 1/6W	C761	1-101-006-00	CERAMIC	0.047MF 50V
R172	1-247-813-00	METAL	180 5% 1/6W	DIODE			
R173	1-247-871-00	METAL	47K 5% 1/6W	D701	8-719-104-10	DIODE	ISS99
R174	1-247-889-00	METAL	270K 5% 1/6W	D702	8-719-104-10	DIODE	ISS99
R175	1-247-865-00	METAL	27K 5% 1/6W	D703	8-719-104-10	DIODE	ISS99
R176	1-247-831-00	METAL	1K 5% 1/6W	D704	8-719-100-68	DIODE	RD13E-B2
R177	1-247-855-00	METAL	10K 5% 1/6W	D705	8-719-911-19	DIODE	ISS119
R178	1-247-855-00	METAL	10K 5% 1/6W	D706	8-719-911-19	DIODE	ISS119
R179	1-247-855-00	METAL	10K 5% 1/6W	D707	8-719-911-19	DIODE	ISS119
R180	1-247-831-00	METAL	1K 5% 1/6W	D708	8-719-911-19	DIODE	ISS119
R181	1-247-833-00	METAL	1.2K 5% 1/6W	D709	8-719-911-19	DIODE	ISS119
R182	1-247-839-00	METAL	2.2K 5% 1/6W	D710	8-719-911-19	DIODE	ISS119
R183	1-247-831-00	METAL	1K 5% 1/6W	D711	8-719-911-19	DIODE	ISS119
R184	1-247-817-00	METAL	270 5% 1/6W	COIL			
R185	1-247-819-00	METAL	330 5% 1/6W	L751	1-408-413-00	MICRO INDUCTOR	22UH
R186	1-247-861-00	METAL	18K 5% 1/6W	NEON LAMP			
R188	1-247-159-00	METAL	15K 5% 1/4W	NL701	1-519-108-XX	LAMP, NEON ASSY	
VARIABLE RESISTOR							
RV101	1-228-727-00	RES, ADJ, CERAMIC CARBON	47K				
RV151	1-228-726-00	RES, ADJ, CERAMIC CARBON	33K				
FILTER							
SWF101	1-404-438-00	FILTER, SAW					

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

# C H1

Ref.No. Part No. Description

## TRANSISTOR

Q701	8-729-245-83	TRANSISTOR	2SC2458
Q702	8-729-245-83	TRANSISTOR	2SC2458
Q703	8-729-245-83	TRANSISTOR	2SC2458
Q704	8-729-322-78	TRANSISTOR	2SC2278
Q705	8-729-322-78	TRANSISTOR	2SC2278
Q706	8-729-322-78	TRANSISTOR	2SC2278
Q707	8-729-255-12	TRANSISTOR	2SC2551
Q708	8-729-255-12	TRANSISTOR	2SC2551
Q709	8-729-255-12	TRANSISTOR	2SC2551
Q710	8-729-200-17	TRANSISTOR	2SA1091
Q711	8-729-200-17	TRANSISTOR	2SA1091
Q712	8-729-200-17	TRANSISTOR	2SA1091
Q713	8-729-245-83	TRANSISTOR	2SC2458
Q751	8-729-245-83	TRANSISTOR	2SC2458
Q752	8-729-245-83	TRANSISTOR	2SC2458
Q753	8-729-103-43	TRANSISTOR	2SB734-4
Q754	8-729-177-43	TRANSISTOR	2SD774-4

## RESISTOR

R701	1-247-855-00	CARBON	10K	5%	1/6W
R702	1-247-855-00	CARBON	10K	5%	1/6W
R703	1-247-855-00	CARBON	10K	5%	1/6W
R704	1-247-837-00	CARBON	1.8K	5%	1/6W
R705	1-247-837-00	CARBON	1.8K	5%	1/6W
R706	1-247-837-00	CARBON	1.8K	5%	1/6W
R707	1-247-855-00	CARBON	10K	5%	1/6W
R708	1-247-855-00	CARBON	10K	5%	1/6W
R709	1-247-855-00	CARBON	10K	5%	1/6W
R710	1-247-826-00	CARBON	620	5%	1/6W
R711	1-247-826-00	CARBON	620	5%	1/6W
R712	1-247-826-00	CARBON	620	5%	1/6W
R713	1-206-692-00	METAL OXIDE	15K	5%	2W F
R714	1-206-692-00	METAL OXIDE	15K	5%	2W F
R715	1-206-692-00	METAL OXIDE	15K	5%	2W F
R716	1-247-038-00	CARBON	560	5%	1/8W F
R717	1-247-038-00	CARBON	560	5%	1/8W F
R718	1-247-038-00	CARBON	560	5%	1/8W F
R719	1-213-163-00	METAL OXIDE	47K	5%	1W F
R720	1-213-163-00	METAL OXIDE	47K	5%	1W F
R721	1-213-163-00	METAL OXIDE	47K	5%	1W F
R722	1-202-824-00	SOLID	3.3K		1/2W
R723	1-202-824-00	SOLID	3.3K		1/2W
R724	1-202-824-00	SOLID	3.3K		1/2W
R725	1-246-497-00	CARBON	10K	5%	1/4W
R726	1-214-964-00	METAL	1M	1%	1/4W
R727	1-246-497-00	CARBON	10K	5%	1/4W
R728	1-214-960-00	METAL	680K	1%	1/4W
R729	1-214-788-00	METAL	300K	1%	1/4W
R730	1-202-838-00	SOLID	100K		1/2W
R731	1-202-631-00	SOLID	270K		1/2W
R732	1-202-609-00	SOLID	33K		1/2W

Remark

Ref.No. Part No. Description

Remark

R733	1-202-719-00	SOLID	1M	10%	1/2W
R734	1-202-609-00	SOLID	33K		1/2W
R735	1-202-629-00	SOLID	220K		1/2W
R736	1-202-846-00	SOLID	470K		1/2W
R737	1-247-813-00	CARBON	180	5%	1/6W
R738	1-246-477-00	CARBON	1.5K	5%	1/4W
R739	1-246-497-00	CARBON	10K	5%	1/4W
R740	1-207-451-00	WIREWOUND	0.1	10%	1/2W
R746	1-247-871-00	CARBON	47K	5%	1/6W
R747	1-247-855-00	CARBON	10K	5%	1/6W
R751	1-247-833-00	CARBON	1.2K	5%	1/6W
R752	1-247-849-00	CARBON	5.6K	5%	1/6W
R753	1-247-825-00	CARBON	560	5%	1/6W
R754	1-247-865-00	CARBON	27K	5%	1/6W
R755	1-247-807-00	CARBON	100	5%	1/6W
R756	1-247-835-00	CARBON	1.5K	5%	1/6W
R757	1-247-807-00	CARBON	100	5%	1/6W
R758	1-247-815-00	CARBON	220	5%	1/6W
R759	1-247-815-00	CARBON	220	5%	1/6W
R760	1-247-819-00	CARBON	330	5%	1/6W
R761	1-247-855-00	CARBON	10K	5%	1/6W
R762	1-247-895-00	CARBON	470K	5%	1/6W
R763	1-247-855-00	CARBON	10K	5%	1/6W
R764	1-246-981-00	CARBON	4.7	5%	1/8W F
R765	1-246-981-00	CARBON	4.7	5%	1/8W F
R766	1-247-833-00	CARBON	1.2K	5%	1/6W
R767	1-247-837-00	CARBON	1.8K	5%	1/6W
R768	1-247-801-00	CARBON	56	5%	1/6W
R769	1-212-889-00	FUSIBLE	220	5%	1/4W F

## VARIABLE RESISTOR

RV701	1-228-721-00	RES, ADJ, CERAMIC CARBON	2.2K
RV702	1-228-721-00	RES, ADJ, CERAMIC CARBON	2.2K
RV703	1-226-157-00	RES, ADJ, METAL GLAZE	1M

## SPARK GAP

SG701	1-519-063-XX	DISCHARGING GAP
SG702	1-519-063-XX	DISCHARGING GAP
SG703	1-519-063-XX	DISCHARGING GAP

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• 1-611-013-00 H1 BOARD  
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## CAPACITOR

C401	1-123-617-00	ELECT	10MF	20%	16V
C402	1-123-617-00	ELECT	10MF	20%	16V

## DIODE

D401	8-719-911-19	DIODE	1SS119
D402	8-719-911-19	DIODE	1SS119
D403	8-719-911-19	DIODE	1SS119
D404	8-719-911-19	DIODE	1SS119



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
D19	●:1-564-346-00	CONNECTOR, BOARD TO BOARD 18P		D661	8-719-102-78	DIODE RD6.8E-N2	
D20	●:1-564-346-00	CONNECTOR, BOARD TO BOARD 18P		D801	8-719-900-26	DIODE ERD29-08J	
D21	●:1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)		D802	8-719-903-09	DIODE V30N	
D22	●:1-560-127-00	PLUG, CONNECTOR (2.5MM PITCH)		D803	8-719-924-06	DIODE ERC24-06S	
D23	●:1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH)		D804	8-719-901-93	DIODE V19E	
D24	●:1-508-784-00	1P PLUG		D805	8-719-305-15	DIODE GH3F	
D32	●:1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)		D806	8-719-305-15	DIODE GH3F	
<u>DIODE</u>				D810	8-719-907-40	DIODE ERB43-02	
D001	8-719-911-19	DIODE 1SS119		<u>DELAY LINE</u>			
D002	8-719-911-19	DIODE 1SS119		DL301	1-415-336-00	DELAY LINE, Y	
D004	8-719-911-19	DIODE 1SS119		DL302	1-415-122-31	DELAY LINE	
D005	8-759-157-40	IC UPC574J		<u>CONNECTOR</u>			
D006	8-719-101-02	DIODE RD30E-B4		DY1	●:1-508-765-00	3P PLUG (M)	
D008	8-719-911-19	DIODE 1SS119		DY2	●:1-508-765-00	3P PLUG (M)	
D009	8-719-101-35	DIODE RD3.0E-L2		DY3	●:1-508-766-00	4P PLUG (M)	
D010	8-719-911-19	DIODE 1SS119		<u>IC</u>			
D060	8-719-911-19	DIODE 1SS119		IC001	8-759-600-63	IC CX519-004P	
D061	8-719-100-35	DIODE RD5.6E-B2		IC002	8-759-600-66	IC M58653P	
D201	8-719-911-19	DIODE 1SS119		IC201	8-759-340-53	IC HD14053BP	
D202	8-719-911-19	DIODE 1SS119		IC251	8-759-276-30	IC TA7630P	
D203	8-719-911-19	DIODE 1SS119		IC252	8-749-943-62	IC STK-4362	
D204	8-719-911-19	DIODE 1SS119		IC301	6-066-720-60	IC TDA3562A	
D205	8-719-911-19	DIODE 1SS119		IC551	8-759-907-56	IC TDA2578A	
D206	8-719-911-19	DIODE 1SS119		IC552	8-759-907-57	IC TDA3652	
D208	8-719-100-66	DIODE RD12E-B3		IC651	8-759-100-75	IC UPC1394C	
D251	8-719-100-43	DIODE RD7.5E-B1		<u>COIL</u>			
D252	8-719-911-19	DIODE 1SS119		L251	1-408-300-00	MICRO INDUCTOR 6.8UH	
D253	8-719-911-19	DIODE 1SS119		L252	1-408-300-00	MICRO INDUCTOR 6.8UH	
D301	8-719-911-19	DIODE 1SS119		L301	1-404-495-00	COIL	
D302	8-719-026-11	DIODE 1T261		L302	1-408-421-00	MICRO INDUCTOR 100UH	
D303	8-719-911-19	DIODE 1SS119		L304	1-408-408-00	MICRO INDUCTOR 8.2UH	
D307	8-719-911-19	DIODE 1SS119		L305	1-408-227-00	MICRO INDUCTOR 470UH	
D308	8-719-911-19	DIODE 1SS119		L306	1-404-494-00	COIL	
D309	8-719-911-19	DIODE 1SS119		L307	1-404-498-00	COIL	
D501	8-719-911-55	DIODE U05G		L308	1-408-415-00	MICRO INDUCTOR 33UH	
D502	8-719-906-98	DIODE EQA01-22R2		L309	1-408-414-00	MICRO INDUCTOR 27UH	
D503	8-719-992-42	DIODE EQA01-24R2		L601	1-407-365-00	COIL, CHOKE 0.7UH	
D504	8-719-102-78	DIODE RD6.8E-N2		L651	1-425-613-00	COIL, AIR-CORE, QF TYPE	
D506	8-719-911-19	DIODE 1SS119		L652	1-459-442-00	COIL (WITH CORE)	
D507	8-719-911-19	DIODE 1SS119		L801	1-407-365-00	COIL, CHOKE 0.7UH	
D508	8-719-911-19	DIODE 1SS119		L802	1-408-225-00	MICRO INDUCTOR 3.3UH	
D601	8-719-503-06	DIODE S3WB60Z		L803	1-459-224-00	HLC	
D602	8-719-924-06	DIODE ERC24-06S		L804	1-421-390-00	COIL, FERRITE (PMC)	
D603	8-719-911-19	DIODE 1SS119		L805	1-408-239-00	MICRO INDUCTOR 4.7MMH	
D651	8-719-928-08	DIODE ERD28-08		L806	1-421-329-00	COIL, CHOKE	
D652	8-719-924-06	DIODE ERC24-06S		L807	1-408-225-00	MICRO INDUCTOR 3.3UH	
D653	8-719-901-93	DIODE V19E		L808	1-407-365-00	COIL, CHOKE 0.7UH	
D654	8-719-300-59	DIODE CTU12S		L809	1-459-115-00	COIL, DCC-H	
D655	8-719-901-93	DIODE V19E		L810	1-408-240-00	MICRO INDUCTOR 6.8MMH	
D656	8-719-982-04	DIODE ERB81-004					
D657	8-719-102-68	DIODE RD5.1E-N2					
D659	8-719-911-19	DIODE 1SS119					

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
L811	1-407-365-00	COIL, CHOKE					
L891	1-459-443-00	COIL, FERRITE					
		<u>TRANSISTOR</u>				<u>RESISTOR</u>	
Q001	8-729-204-83	TRANSISTOR 2SA1048-GR		R001	1-247-831-00	CARBON 1K 5% 1/6W	
Q002	8-729-204-83	TRANSISTOR 2SA1048-GR		R002	1-247-831-00	CARBON 1K 5% 1/6W	
Q003	8-729-245-83	TRANSISTOR 2SC2458		R003	1-247-831-00	CARBON 1K 5% 1/6W	
Q004	8-729-245-83	TRANSISTOR 2SC2458		R004	1-247-815-00	CARBON 220 5% 1/6W	
Q006	8-729-245-83	TRANSISTOR 2SC2458		R005	1-247-815-00	CARBON 220 5% 1/6W	
Q007	8-724-375-01	TRANSISTOR 2SC403C		R006	1-247-815-00	CARBON 220 5% 1/6W	
Q008	8-729-245-83	TRANSISTOR 2SC2458		R007	1-247-815-00	CARBON 220 5% 1/6W	
Q009	8-729-245-83	TRANSISTOR 2SC2458		R008	1-247-815-00	CARBON 220 5% 1/6W	
Q011	8-729-245-83	TRANSISTOR 2SC2458		R009	1-247-815-00	CARBON 220 5% 1/6W	
Q012	8-729-245-83	TRANSISTOR 2SC2458		R010	1-247-815-00	CARBON 220 5% 1/6W	
Q201	8-729-204-83	TRANSISTOR 2SA1048-GR		R011	1-247-815-00	CARBON 220 5% 1/6W	
Q202	8-729-245-83	TRANSISTOR 2SC2458		R012	1-247-799-00	CARBON 47 5% 1/6W	
Q203	8-729-204-83	TRANSISTOR 2SA1048-GR		R013	1-247-815-00	CARBON 220 5% 1/6W	
Q204	8-729-245-83	TRANSISTOR 2SC2458		R014	1-247-847-00	CARBON 4.7K 5% 1/6W	
Q205	8-729-245-83	TRANSISTOR 2SC2458		R015	1-247-847-00	CARBON 4.7K 5% 1/6W	
Q206	8-729-204-83	TRANSISTOR 2SA1048-GR		R016	1-246-489-00	CARBON 4.7K 5% 1/4W	
Q207	8-729-204-83	TRANSISTOR 2SA1048-GR		R018	1-247-831-00	CARBON 1K 5% 1/6W	
Q208	8-729-204-83	TRANSISTOR 2SA1048-GR		R019	1-247-875-00	CARBON 68K 5% 1/6W	
Q251	8-729-245-83	TRANSISTOR 2SC2458		R021	1-247-859-00	CARBON 15K 5% 1/6W	
Q252	8-729-245-83	TRANSISTOR 2SC2458		R022	1-247-859-00	CARBON 15K 5% 1/6W	
Q253	8-729-245-83	TRANSISTOR 2SC2458		R023	1-247-807-00	CARBON 100 5% 1/6W	
Q254	8-729-245-83	TRANSISTOR 2SC2458		R024	1-246-501-00	CARBON 15K 5% 1/4W	
Q301	8-729-245-83	TRANSISTOR 2SC2458		R025	1-247-863-00	CARBON 22K 5% 1/6W	
Q302	8-765-222-20	TRANSISTOR 2SC1963		R027	1-247-863-00	CARBON 22K 5% 1/6W	
Q303	8-729-245-83	TRANSISTOR 2SC2458		R028	1-247-863-00	CARBON 22K 5% 1/6W	
Q304	8-729-245-83	TRANSISTOR 2SC2458		R029	1-247-863-00	CARBON 22K 5% 1/6W	
Q305	8-729-245-83	TRANSISTOR 2SC2458		R030	1-247-863-00	CARBON 22K 5% 1/6W	
Q306	8-729-245-83	TRANSISTOR 2SC2458		R031	1-247-863-00	CARBON 22K 5% 1/6W	
Q307	8-729-245-83	TRANSISTOR 2SC2458		R032	1-247-863-00	CARBON 22K 5% 1/6W	
Q308	8-729-245-83	TRANSISTOR 2SC2458		R033	1-247-863-00	CARBON 22K 5% 1/6W	
Q309	8-729-245-83	TRANSISTOR 2SC2458		R034	1-247-863-00	CARBON 22K 5% 1/6W	
Q310	8-729-245-83	TRANSISTOR 2SC2458		R035	1-247-863-00	CARBON 22K 5% 1/6W	
Q311	8-729-245-83	TRANSISTOR 2SC2458		R037	1-247-831-00	CARBON 1K 5% 1/6W	
Q312	8-729-245-83	TRANSISTOR 2SC2458		R038	1-247-841-00	CARBON 2.7K 5% 1/6W	
Q313	8-729-245-83	TRANSISTOR 2SC2458		R039	1-247-807-00	CARBON 100 5% 1/6W	
Q314	8-729-900-36	TRANSISTOR DTC124ES		R040	1-247-863-00	CARBON 22K 5% 1/6W	
Q501	8-729-204-83	TRANSISTOR 2SA1048-GR		R041	1-247-867-00	CARBON 33K 5% 1/6W	
Q502	8-729-204-83	TRANSISTOR 2SA1048-GR		R042	1-247-823-00	CARBON 470 5% 1/6W	
Q602	8-729-213-12	TRANSISTOR 2SC2230A		R043	1-247-823-00	CARBON 470 5% 1/6W	
Q603	8-729-301-00	TRANSISTOR 2SD1497-02		R044	1-247-831-00	CARBON 1K 5% 1/6W	
Q654	8-729-245-83	TRANSISTOR 2SC2458		R045	1-247-831-00	CARBON 1K 5% 1/6W	
Q655	8-729-109-53	TRANSISTOR 2SD795A		R046	1-247-847-00	CARBON 4.7K 5% 1/6W	
Q656	8-729-245-83	TRANSISTOR 2SC2458		R047	1-247-807-00	CARBON 100 5% 1/6W	
Q801	8-729-323-82	TRANSISTOR 2SD1138-02-C		R048	1-247-871-00	CARBON 47K 5% 1/6W	
Q802	8-729-300-90	TRANSISTOR 2SD1497-06		R049	1-247-863-00	CARBON 22K 5% 1/6W	
Q803	8-726-400-02	THYRISTOR SG264A		R050	1-247-831-00	CARBON 1K 5% 1/6W	
	2-825-006-00	SPACER, MICA, Q803		R051	1-247-831-00	CARBON 1K 5% 1/6W	
	3-703-320-00	BUSHING (A), TRANSISTOR, Q803		R052	1-247-831-00	CARBON 1K 5% 1/6W	
	4-309-762-00	RETAINER (MD-17), TRANSISTOR, Q803		R053	1-247-883-00	CARBON 150K 5% 1/6W	
				R055	1-247-847-00	CARBON 4.7K 5% 1/6W	
				R056	1-247-859-00	CARBON 15K 5% 1/6W	

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Ref.No.	Part No.	Description				Remark	Ref.No.	Part No.	Description				Remark
R057	1-246-497-00	CARBON	10K	5%	1/4W		R261	1-247-843-00	CARBON	3.3K	5%	1/6W	
R060	1-247-819-00	CARBON	330	5%	1/6W		R262	1-217-393-00	FUSIBLE	33	5%	1/4W	F
R201	1-247-869-00	CARBON	39K	5%	1/6W		R263	1-247-869-00	CARBON	39K	5%	1/6W	
R202	1-247-831-00	CARBON	1K	5%	1/6W		R264	1-247-874-00	CARBON	62K	5%	1/6W	
R203	1-247-804-00	CARBON	75	5%	1/6W		R265	1-247-845-00	CARBON	3.9K	5%	1/6W	
R204A	1-246-446-00	CARBON	75	5%	1/4W		R266	1-247-855-00	CARBON	10K	5%	1/6W	
R205A	1-246-446-00	CARBON	75	5%	1/4W		R267	1-247-903-00	CARBON	1M	5%	1/6W	
R206A	1-246-446-00	CARBON	75	5%	1/4W		R268	1-247-831-00	CARBON	1K	5%	1/6W	
R207	1-247-867-00	CARBON	33K	5%	1/6W		R269	1-247-863-00	CARBON	22K	5%	1/6W	
R208	1-247-863-00	CARBON	22K	5%	1/6W		R270	1-246-471-00	CARBON	820	5%	1/4W	
R209	1-246-489-00	CARBON	4.7K	5%	1/4W		R273	1-247-875-00	CARBON	68K	5%	1/6W	
R210	1-246-489-00	CARBON	4.7K	5%	1/4W		R274	1-247-847-00	CARBON	4.7K	5%	1/6W	
R211	1-247-853-00	CARBON	8.2K	5%	1/6W		R275	1-247-855-00	CARBON	10K	5%	1/6W	
R212	1-247-821-00	CARBON	390	5%	1/6W		R276	1-246-471-00	CARBON	820	5%	1/4W	
R213	1-247-783-00	CARBON	10	5%	1/6W		R277	1-247-855-00	CARBON	10K	5%	1/6W	
R214	1-247-811-00	CARBON	150	5%	1/6W		R280	1-247-879-00	CARBON	100K	5%	1/6W	
R215	1-247-831-00	CARBON	1K	5%	1/6W		R281	1-247-849-00	CARBON	5.6K	5%	1/6W	
R216	1-247-831-00	CARBON	1K	5%	1/6W		R282	1-247-847-00	CARBON	4.7K	5%	1/6W	
R217	1-247-855-00	CARBON	10K	5%	1/6W		R284	1-247-005-00	CARBON	100	5%	1/4W	F
R218	1-247-804-00	CARBON	75	5%	1/6W		R285	1-247-847-00	CARBON	4.7K	5%	1/6W	
R219	1-247-031-00	CARBON	27	5%	1/8W	F	R286	1-247-849-00	CARBON	5.6K	5%	1/6W	
R220	1-247-831-00	CARBON	1K	5%	1/6W		R287	1-247-879-00	CARBON	100K	5%	1/6W	
R221	1-247-831-00	CARBON	1K	5%	1/6W		R288	1-247-881-00	CARBON	120K	5%	1/6W	
R224	1-247-823-00	CARBON	470	5%	1/6W		R289	1-247-871-00	CARBON	47K	5%	1/6W	
R225	1-247-807-00	CARBON	100	5%	1/6W		R297	1-247-831-00	CARBON	1K	5%	1/6W	
R226	1-247-807-00	CARBON	100	5%	1/6W		R298	1-247-831-00	CARBON	1K	5%	1/6W	
R227	1-247-807-00	CARBON	100	5%	1/6W		R301	1-247-835-00	CARBON	1.5K	5%	1/6W	
R228	1-247-807-00	CARBON	100	5%	1/6W		R302	1-247-835-00	CARBON	1.5K	5%	1/6W	
R229	1-247-807-00	CARBON	100	5%	1/6W		R303	1-247-816-00	CARBON	240	5%	1/6W	
R230	1-246-497-00	CARBON	10K	5%	1/4W		R304	1-247-837-00	CARBON	1.8K	5%	1/6W	
R231	1-247-831-00	CARBON	1K	5%	1/6W		R305	1-247-831-00	CARBON	1K	5%	1/6W	
R232	1-247-879-00	CARBON	100K	5%	1/6W		R306	1-247-831-00	CARBON	1K	5%	1/6W	
R234	1-247-831-00	CARBON	1K	5%	1/6W		R307	1-247-831-00	CARBON	1K	5%	1/6W	
R235	1-247-847-00	CARBON	4.7K	5%	1/6W		R308	1-247-819-00	CARBON	330	5%	1/6W	
R236	1-247-877-00	CARBON	82K	5%	1/6W		R309	1-247-837-00	CARBON	1.8K	5%	1/6W	
R237	1-247-903-00	CARBON	1M	5%	1/6W		R310	1-247-853-00	CARBON	8.2K	5%	1/6W	
R238	1-247-855-00	CARBON	10K	5%	1/6W		R313	1-247-815-00	CARBON	220	5%	1/6W	
R239	1-247-853-00	CARBON	8.2K	5%	1/6W		R314	1-247-831-00	CARBON	1K	5%	1/6W	
R240	1-247-887-00	CARBON	220K	5%	1/6W		R315	1-247-841-00	CARBON	2.7K	5%	1/6W	
R241	1-247-887-00	CARBON	220K	5%	1/6W		R316	1-247-841-00	CARBON	2.7K	5%	1/6W	
R242	1-247-827-00	CARBON	680	5%	1/6W		R317	1-247-865-00	CARBON	27K	5%	1/6W	
R243	1-247-879-00	CARBON	100K	5%	1/6W		R318	1-247-813-00	CARBON	180	5%	1/6W	
R244	1-247-879-00	CARBON	100K	5%	1/6W		R319	1-247-831-00	CARBON	1K	5%	1/6W	
R245	1-247-831-00	CARBON	1K	5%	1/6W		R320	1-247-881-00	CARBON	120K	5%	1/6W	
R246	1-247-831-00	CARBON	1K	5%	1/6W		R321	1-247-857-00	CARBON	12K	5%	1/6W	
R252	1-247-855-00	CARBON	10K	5%	1/6W		R322	1-247-855-00	CARBON	10K	5%	1/6W	
R253	1-247-855-00	CARBON	10K	5%	1/6W		R323	1-247-837-00	CARBON	1.8K	5%	1/6W	
R254	1-247-851-00	CARBON	6.8K	5%	1/6W		R324	1-247-825-00	CARBON	560	5%	1/6W	
R256	1-247-881-00	CARBON	120K	5%	1/6W		R325	1-247-821-00	CARBON	390	5%	1/6W	
R257	1-247-831-00	CARBON	1K	5%	1/6W		R326	1-247-849-00	CARBON	5.6K	5%	1/6W	
R258	1-247-831-00	CARBON	1K	5%	1/6W		R327	1-247-831-00	CARBON	1K	5%	1/6W	
R259	1-247-855-00	CARBON	10K	5%	1/6W		R328	1-247-857-00	CARBON	12K	5%	1/6W	
R260	1-247-875-00	CARBON	68K	5%	1/6W		R331	1-247-877-00	CARBON	82K	5%	1/6W	

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Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R332	1-247-825-00	CARBON	560 5% 1/6W	R515	1-247-888-00	CARBON	240K 5% 1/6W
R333	1-247-853-00	CARBON	8.2K 5% 1/6W	R516	1-212-361-00	METAL OXIDE	1.2 5% 1W F
R334	1-247-840-00	CARBON	2.4K 5% 1/6W	R517	1-247-853-00	CARBON	8.2K 5% 1/6W
R335	1-247-859-00	CARBON	15K 5% 1/6W	R518	1-247-851-00	CARBON	6.8K 5% 1/6W
R336	1-247-855-00	CARBON	10K 5% 1/6W	R519	1-247-857-00	CARBON	12K 5% 1/6W
R337	1-247-855-00	CARBON	10K 5% 1/6W	R520	1-247-855-00	CARBON	10K 5% 1/6W
R338	1-247-831-00	CARBON	1K 5% 1/6W	R521	1-212-891-00	FUSIBLE	270 5% 1/4W F
R339	1-247-831-00	CARBON	1K 5% 1/6W	R522	1-247-218-00	CARBON	120 5% 1/2W
R340	1-247-821-00	CARBON	390 5% 1/6W	R523	1-247-825-00	CARBON	560 5% 1/6W
R341	1-247-821-00	CARBON	390 5% 1/6W	R525	1-247-841-00	CARBON	2.7K 5% 1/6W
R343	1-247-879-00	CARBON	100K 5% 1/6W	R526	1-247-895-00	CARBON	470K 5% 1/6W
R344	1-247-863-00	CARBON	22K 5% 1/6W	R527	1-247-845-00	CARBON	3.9K 5% 1/6W
R345	1-247-882-00	CARBON	130K 5% 1/6W	R529	1-247-783-00	CARBON	10 5% 1/6W
R346	1-247-815-00	CARBON	220 5% 1/6W	R530	1-247-841-00	CARBON	2.7K 5% 1/6W
R347	1-247-825-00	CARBON	560 5% 1/6W	R531	1-247-827-00	CARBON	680 5% 1/6W
R348	1-247-827-00	CARBON	680 5% 1/6W	R532	1-247-835-00	CARBON	1.5K 5% 1/6W
R349	1-247-849-00	CARBON	5.6K 5% 1/6W	R533	1-247-877-00	CARBON	82K 5% 1/6W
R350	1-247-853-00	CARBON	8.2K 5% 1/6W	R535	1-247-831-00	CARBON	1K 5% 1/6W
R351	1-247-863-00	CARBON	22K 5% 1/6W	R536	1-247-842-00	CARBON	3K 5% 1/6W
R352	1-247-837-00	CARBON	1.8K 5% 1/6W	R537	1-247-819-00	CARBON	330 5% 1/6W
R353	1-247-843-00	CARBON	3.3K 5% 1/6W	R538	1-213-140-00	METAL OXIDE	560 5% 1W F
R354	1-247-883-00	CARBON	150K 5% 1/6W	R582	1-247-879-00	CARBON	100K 5% 1/6W
R355	1-247-846-00	CARBON	4.3K 5% 1/6W	R591	1-247-839-00	CARBON	2.2K 5% 1/6W
R356	1-247-857-00	CARBON	12K 5% 1/6W	R604	1-205-737-00	CEMENTED	30 10% 7W
R357	1-247-845-00	CARBON	3.9K 5% 1/6W	R605	1-205-728-00	CEMENTED	47 10% 7W
R358	1-247-853-00	CARBON	8.2K 5% 1/6W	R606	1-246-433-00	CARBON	22 5% 1/4W
R359	1-247-845-00	CARBON	3.9K 5% 1/6W	R607	1-207-455-00	WIREWOUND	0.22 10% 1/2W
R360	1-247-879-00	CARBON	100K 5% 1/6W	R608	1-206-660-00	METAL OXIDE	680 5% 2W F
R361	1-247-827-00	CARBON	680 5% 1/6W	R609	1-247-823-00	CARBON	470 5% 1/6W
R362	1-247-839-00	CARBON	2.2K 5% 1/6W	R610	1-247-863-00	CARBON	22K 5% 1/6W
R364	1-247-839-00	CARBON	2.2K 5% 1/6W	R612	1-246-411-00	CARBON	2.7 5% 1/4W
R365	1-247-857-00	CARBON	12K 5% 1/6W	R613	1-247-895-00	CARBON	470K 5% 1/6W
R366	1-247-839-00	CARBON	2.2K 5% 1/6W	R616	1-246-449-00	CARBON	100 5% 1/4W
R367	1-247-815-00	CARBON	220 5% 1/6W	R651	1-212-936-00	FUSIBLE	1.2 5% 1/2W F
R368	1-247-815-00	CARBON	220 5% 1/6W	R652	1-217-653-00	FUSIBLE	0.47 10% 2W
R369	1-247-815-00	CARBON	220 5% 1/6W	R653	1-217-653-00	FUSIBLE	0.47 10% 2W
R370	1-247-823-00	CARBON	470 5% 1/6W	R654	1-217-418-00	FUSIBLE	0.47 10% 1/2W F
R371	1-247-807-00	CARBON	100 5% 1/6W	R655	1-214-777-00	METAL	100K 1% 1/4W
R372	1-247-833-00	CARBON	1.2K 5% 1/6W	R656	1-247-839-00	CARBON	2.2K 5% 1/6W
R373	1-247-831-00	CARBON	1K 5% 1/6W	R657	1-247-863-00	CARBON	22K 5% 1/6W
R374	1-247-897-00	CARBON	560K 5% 1/6W	R658	1-247-827-00	CARBON	680 5% 1/6W
R501	1-247-831-00	CARBON	1K 5% 1/6W	R659	1-247-847-00	CARBON	4.7K 5% 1/6W
R502	1-247-839-00	CARBON	2.2K 5% 1/6W	R660	1-247-826-00	CARBON	620 5% 1/6W
R504	1-247-853-00	CARBON	8.2K 5% 1/6W	R661	1-247-843-00	CARBON	3.3K 5% 1/6W
R505	1-247-839-00	CARBON	2.2K 5% 1/6W	R662	1-247-879-00	CARBON	100K 5% 1/6W
R507	1-247-866-00	CARBON	30K 5% 1/6W	R663	1-247-895-00	CARBON	470K 5% 1/6W
R508	1-247-869-00	CARBON	39K 5% 1/6W	R664	1-247-869-00	CARBON	39K 5% 1/6W
R509	1-247-831-00	CARBON	1K 5% 1/6W	R665	1-247-865-00	CARBON	27K 5% 1/6W
R510	1-247-829-00	CARBON	820 5% 1/6W	R666	1-247-855-00	CARBON	10K 5% 1/6W
R511	1-247-851-00	CARBON	6.8K 5% 1/6W	R667	1-247-859-00	CARBON	15K 5% 1/6W
R512	1-247-805-00	CARBON	82 5% 1/6W	R669	1-246-525-00	CARBON	150K 5% 1/4W
R513	1-247-872-00	CARBON	51K 5% 1/6W	R670	1-247-855-00	CARBON	10K 5% 1/6W
R514	1-202-471-00	SOLID	4.7M 5% 1/4W	R671	1-247-843-00	CARBON	3.3K 5% 1/6W

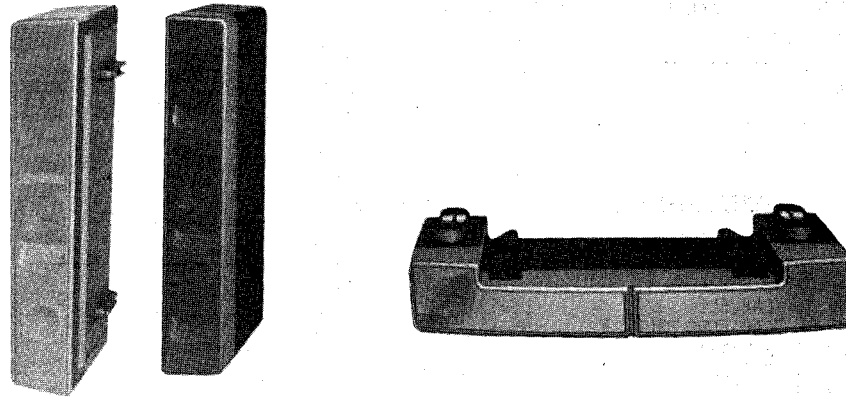
N

<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
ACCESSORIES AND PACKING MATERIALS			
*****			
A-1470-625-A		COMMANDER ASSY RM-653	
X-4361-913-0		BAND ASSY	
2-373-803-00		WRENCH, HEXAGON ROD (FOR KV-2722EC2)	
2-373-807-00		SCREW, CAP (FOR KV-2722EC2)	
4-363-009-00		CUSHION (SPEAKER) (ASSY) (FOR KV-2722EC2)	
4-363-613-00		CUSHION (UPPER) (ASSY)	
4-363-614-00		CUSHION (LOWER) (ASSY)	
4-363-615-00		CUSHION (SPEAKER) (ASSY) (FOR KV-2724EC2)	
4-363-617-00		TRAY	
4-363-667-00		INDIVIDUAL CARTON (FOR KV-2720EC2)	
4-363-668-00		INDIVIDUAL CARTON (FOR KV-2722EC2)	
4-363-669-00		INDIVIDUAL CARTON (FOR KV-2724EC2)	
4-491-718-01		SCHEMATIC DIAGRAM (B2)	
4-493-847-11		MANUAL, INSTRUCTION	
6-047-001-00		HANDLE	



# SS-2722/2724

## SERVICE MANUAL



November, 1983

SPEAKER SYSTEM  
**SONY**®

## EXPLODED VIEW

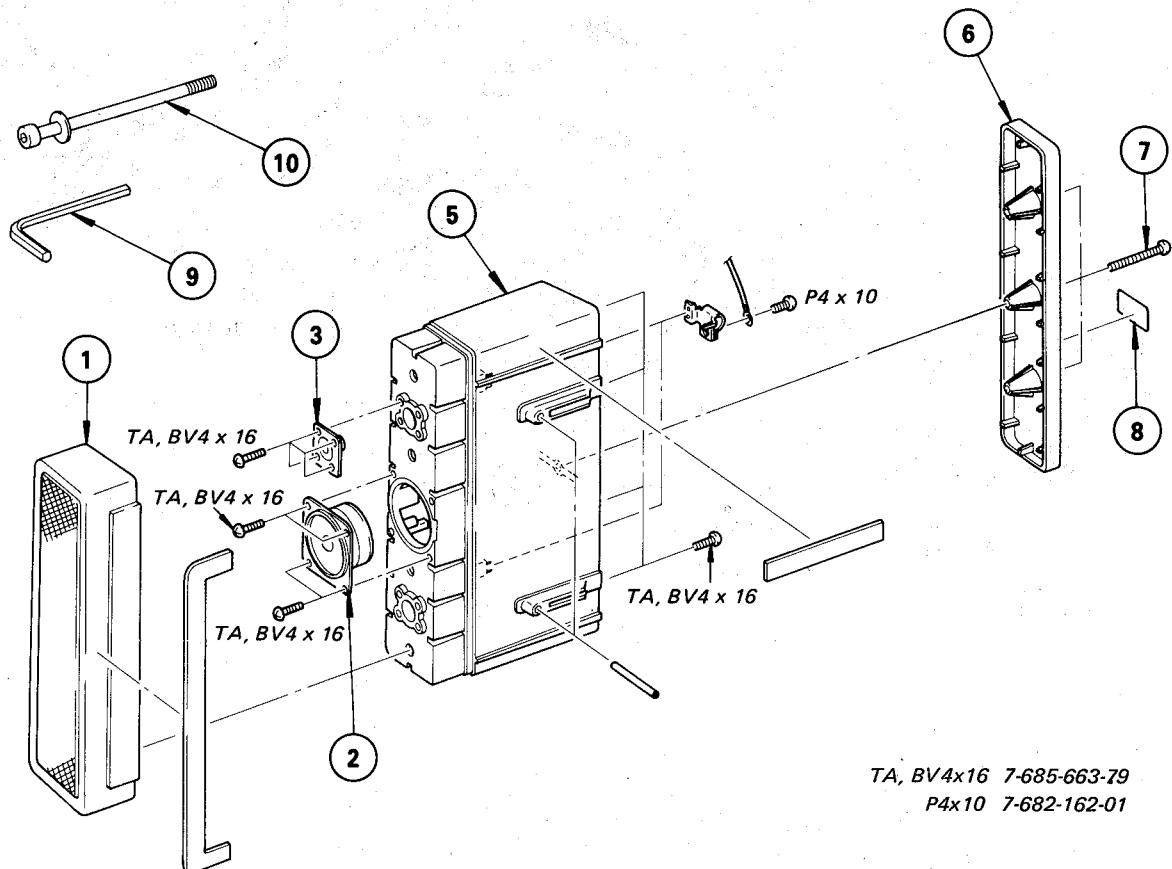
### NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "▲" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

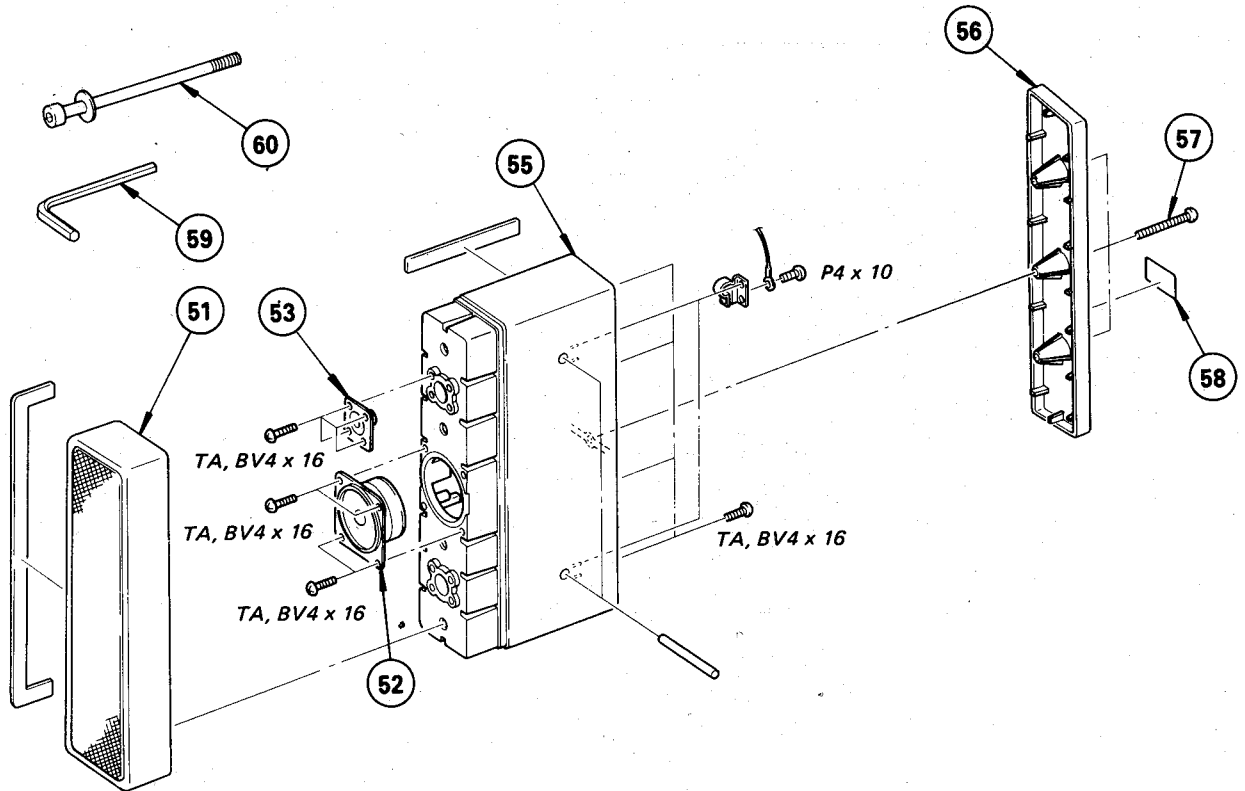
### SS-2722 (LEFT)



TA, BV4x16 7-685-663-79  
P4x10 7-682-162-01

No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	X-2373-802-0	PANEL (SPEAKER.SIDE) ASSY, FRONT		6	2-373-813-00	PANEL (SPEAKER.SIDE) REAR, LEFT	
2	1-503-188-00	SPEAKER		7	4-355-242-11	SCREW, TAPPING, +P	
3	1-503-189-00	SPEAKER		8	▲2-373-818-00	LABEL, MODEL NUMBER (LEFT)	
5	2-373-810-00	BOX (SIDE), SPEAKER		9	2-373-803-00	WRENCH, HEXAGON ROD	
				10	2-373-807-00	SCREW,CAP	

## SS-2722 (RIGHT)



TA, BV4x16 7-685-663-79  
P4x10 7-682-162-01

No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	X-2373-802-0	PANEL (SPEAKER.SIDE) ASSY, FRONT		56	2-373-811-00	PANEL (SPEAKER.SIDE) REAR, RIGHT	
52	1-503-188-00	SPEAKER		58	2-373-817-00	LABEL, MODEL NUMBER (RIGHT)	
53	1-503-189-00	SPEAKER		57	4-355-242-11	SCREW, TAPPING, +P	
55	2-373-810-00	BOX (SIDE), SPEAKER		59	2-373-803-00	WRENCH, HEXAGON ROD	
				60	2-373-807-00	SCREW,CAP	

# **ELECTRICAL PARTS LIST**

NOTE:

When indicating parts by reference number, please include the board name.

## **CAPACITORS**

• MF :  $\mu$ F, PF :  $\mu$  $\mu$ F

<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
MISCELLANEOUS			
*****			
C901	1-119-195-00	CAP,ELEC 1MF	
C902	1-119-195-00	CAP,ELEC 1MF	
SP901	1-503-189-00	SPEAKER	
SP902	1-503-188-00	SPEAKER	
SP903	1-503-188-00	SPEAKER	
SP904	1-503-189-00	SPEAKER	

\*\*\*\*\*

## **ACCESSORIES AND PACKING MATERIALS**

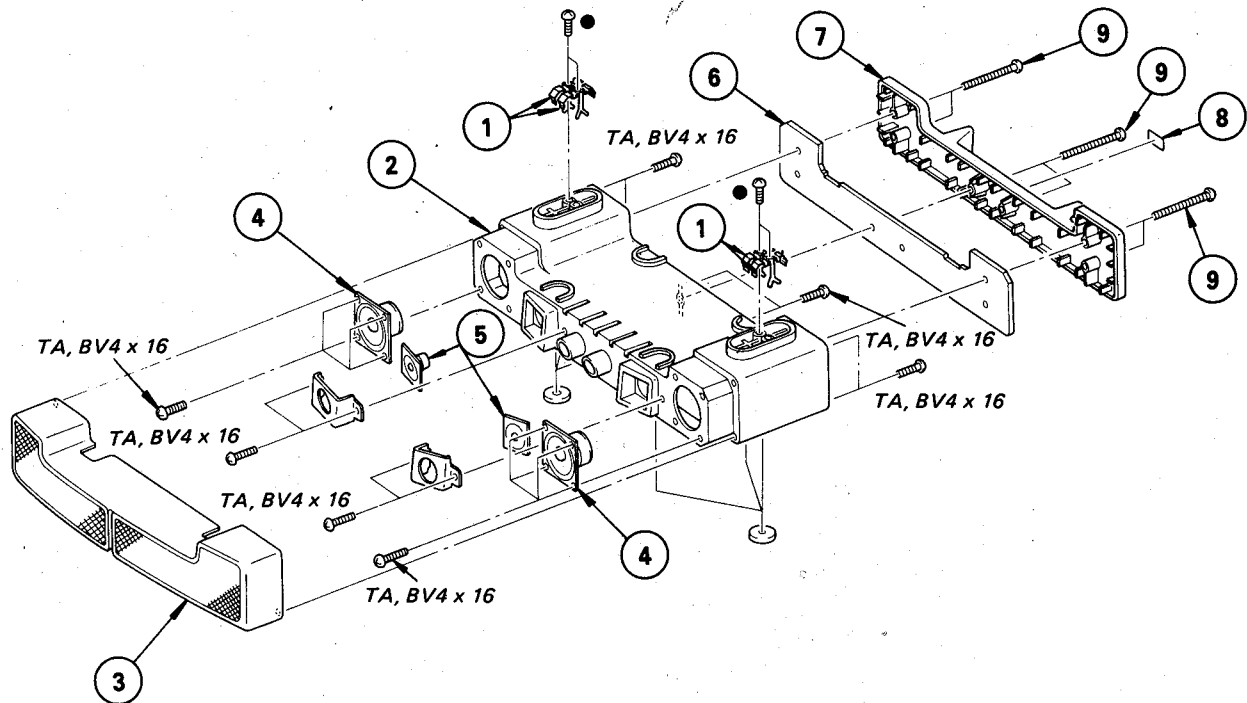
\*\*\*\*\*

<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
2-373-803-01	WRENCH, HEXAGON ROD	
2-373-807-01	SCREW, CAP	
4-463-668-00	INDIVIDUAL CARTON	
4-363-009-00	CUSHION (SPEAKER ASSY)	
4-493-847-11	MANUAL, INSTRUCTION	

## EXPLODED VIEW

SS-2724

- : TA, BV3x12 7-685-648-71  
TA, BV4x16 7-685-663-79



No.	Part No.	Description
1	• 2-373-701-00	TERMINAL, SPEAKER
2	2-373-707-00	BOX, SPEAKER
3	X-2373-701-0	PANEL ASSY, FRONT
4	1-503-188-00	SPEAKER
5	1-503-189-00	SPEAKER

Remark	No.	Part No.	Description	Remark
	6	2-373-702-00	BOARD, REAR	
	7	2-373-708-00	PANEL, REAR	
	8	• 2-373-711-00	LABEL, MODEL NUMBER	
	9	4-355-242-11	SCREW, TAPPING, +P	

## NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "•" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

**ELECTRICAL PARTS LIST**

NOTE:

When indicating parts by reference number, please include the board name.

**CAPACITORS**

• MF :  $\mu$ F, PF :  $\mu$ F

<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
<b>MISCELLANEOUS</b> *****			
C901	1-119-195-00	CAP,ELEC 1MF	
C902	1-119-195-00	CAP,ELEC 1MF	
SP901	1-503-189-00	SPEAKER	
SP902	1-503-188-00	SPEAKER	
SP903	1-503-188-00	SPEAKER	
SP904	1-503-189-00	SPEAKER	

\*\*\*\*\*

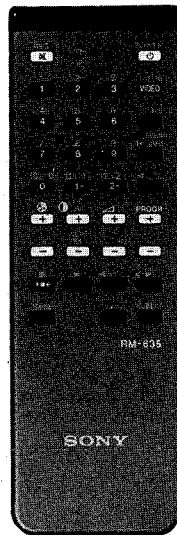
**ACCESSORIES AND PACKING MATERIALS**  
 \*\*\*\*\*

<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
4-363-615-00	CUSHION (SPEAKER) (ASSY)	
4-363-669-00	INDIVIDUAL CARTON	
4-493-847-11	MANUAL, INSTRUCTION	



# RM-635

## SERVICE MANUAL



November, 1983

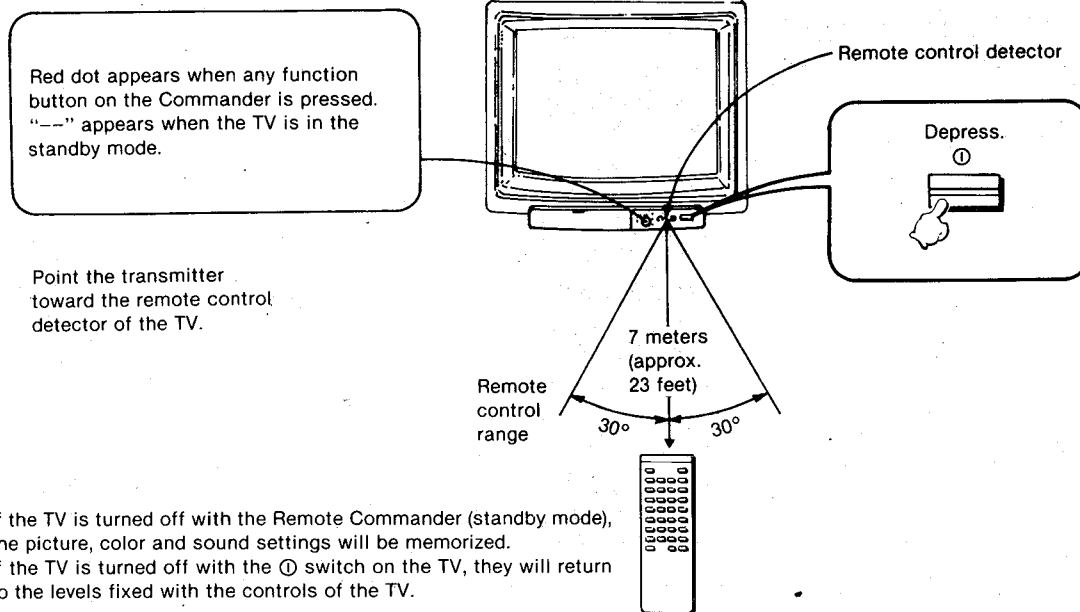
### SPECIFICATIONS

Remote control system	Infrared control
Power requirements	3 V dc 2 batteries IEC designation R03 (size AAA)
Dimensions	Approx. 54 × 16 × 165 mm (w/h/d)
Weight	Approx. 100 g incl. batteries
Accessories supplied	IEC designation R03 battery (2)

Design and specifications are subject to change without notice.

REMOTE COMMANDER  
**SONY**®

## 1. REMOTE TV OPERATION



### FUNCTION OF THE BUTTONS ON THE REMOTE COMMANDER

Each button has different functions for normal TV, teletext and VTR operations.

Functions for operating the TV are indicated in **white or black**.

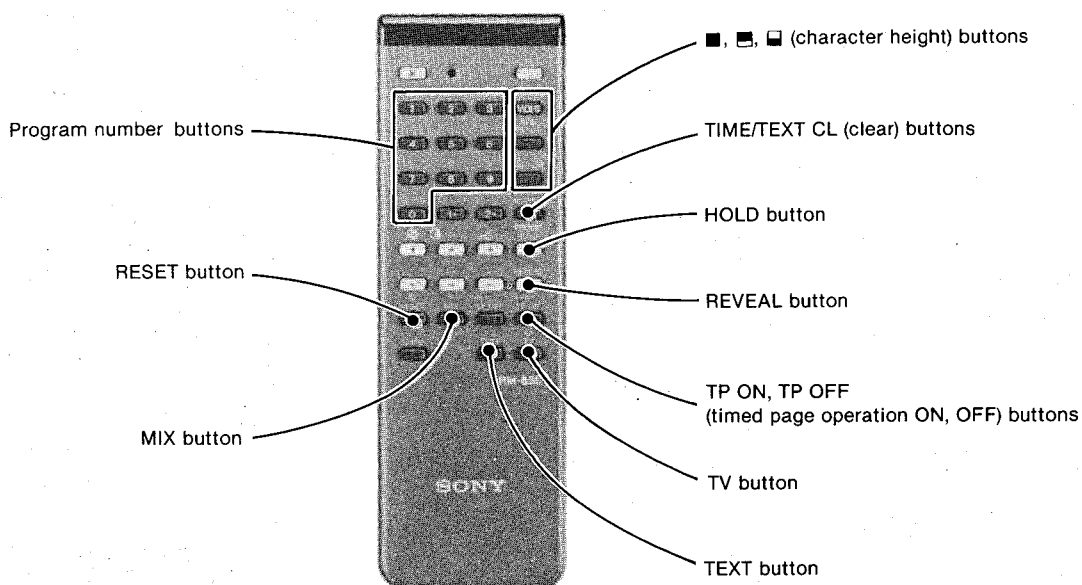
Functions for operating the video tape recorder\* are indicated in **brown**.

Functions for teletext operation using the optional OPK-203 teletext adaptor are indicated in **green**.

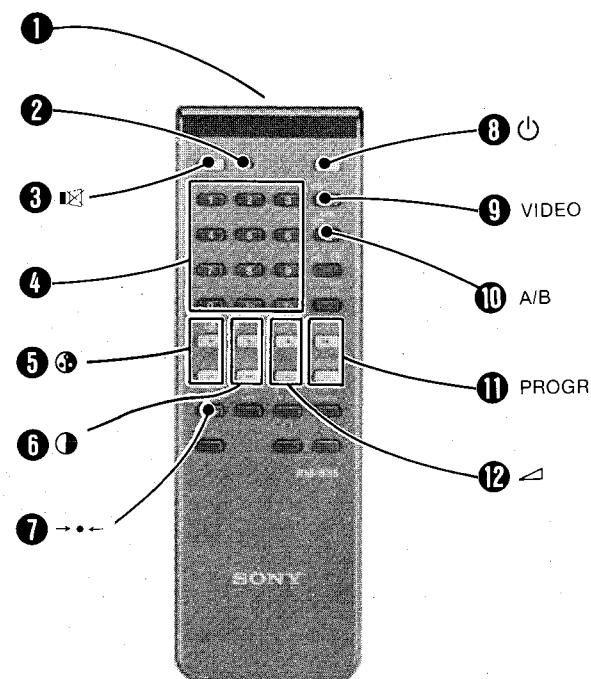
\* This Remote Commander can control the Sony SL-F1E combined with the TT-F1 series tuner timer unit, and Sony SL-C9 series.

#### Buttons used for teletext operations

The following functions are for operating the TV as a teletext display by installing the optional Sony OPK-203 teletext adaptor. For details, please consult a dealer prepared to install a teletext adaptor.



#### Buttons used for normal TV operation



#### 1 Transmitter

Point towards the remote control detector.

#### 2 Pilot lamp

Lights when any button on the Remote Commander is pressed. If the lamp does not light when the button is pressed, battery replacement is required.

#### 3 (sound mute) button

When you want to mute the sound (to answer the telephone, for instance), press this button. To restore the sound, press this button again.

#### 4 Program number buttons

Programs are displayed by pressing the corresponding numbers. For programs 1 through 9, press the appropriate single-digit button.

For programs 10 through 19, press the **1-** button (the tens-digit "1" will blink on the program indicator), then the button corresponding to the last digit of the program number (the tens-digit will now stop blinking). For example:

for program 10, press **1-** and **0**.  
for program 11, press **1-** and **1**.

For programs 20 to 29, press the **2-** button and then the single-digit button.

For program 30, press the **0** button.

**Note:** If you do not press a single-digit button within several seconds after pressing the **1-** or **2-** button, the previous program setting will be automatically recalled.

#### 5 (color) buttons

Adjust the color intensity. Press the **+** button to increase it, or the **-** button to decrease it.

#### 6 (picture) buttons

Press the **+** button to increase the picture contrast, or the **-** button to decrease it.

#### 7 (normal) button

Press this button once instantly returns the color and contrast settings made with the **5** and **6** buttons on the Commander to the factory preset levels.

#### 8 (standby) switch

Turns the TV in standby mode. Program indicator will show "----". To turn on the TV from the standby mode, press a program number button or **7** button on the Commander.

#### 9 VIDEO button

This button is not usable for this TV. When this button is pressed, "AU" will momentarily light in the program indicator, but will immediately disappear.

#### 10 A/B button

This button is not usable for this TV.

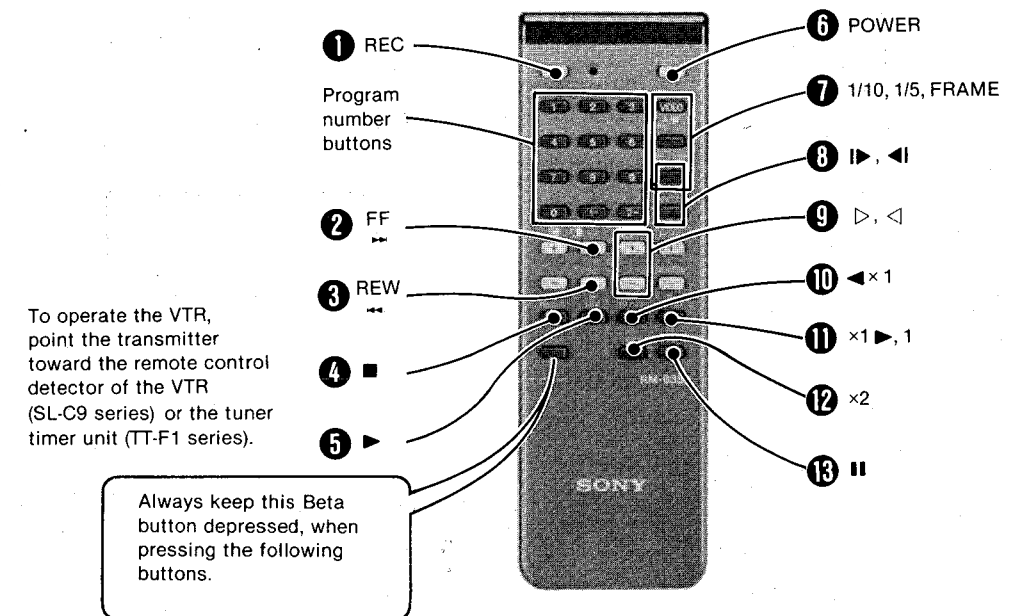
#### 11 PROGR (program) buttons

Function the same as the PROGR buttons on the TV.

#### 12 (volume) buttons

Press the **+** button to increase the volume, or the **-** button to decrease it.

#### Buttons used for VTR operations



#### Buttons which have the same functions for both SL-C9 series and SL-F1E

#### 1 REC (record) button

Press to start recording.

#### 2 FF (fast-forward) button

Press to advance the tape rapidly. This button is also used for the forward picture-search operation.

#### 3 REW (rewind) button

Press to rewind the tape. This button is also used for the reverse picture-search operation.

#### 4 (stop) button

Press to stop the tape.

#### 5 (play) button

Press to play the tape back.

#### 6 POWER switch

Press to turn the video tape recorder (and the tuner timer unit) on or off.

#### 12 x2 (double-speed) button

Functions the same as the x2 button on the video tape recorder. Press to obtain a double-speed playback picture.

#### 13 (pause) button

Functions the same as the **13** PAUSE button on the SL-C9 series and the PAUSE button on the SL-F1E. To release the pause mode, press this button again.

#### Buttons used for the SL-C9 series

#### 7 Speed control buttons (1/10, 1/5, FRAME)

Function the same as the 1/10, 1/5 and FRAME of the SPEED CONTROL buttons on the recorder.

#### 8 (forward) and 9 (reverse) buttons

Select the direction of the speed control playback. Function the same as the **8** and **9** buttons of the SPEED CONTROL buttons on the recorder.

#### 11 1 (normal speed) button

Functions the same as the 1 button of the SPEED CONTROL buttons on the recorder.

#### Buttons used for the SL-F1E

#### 8 (forward slow motion) and 9 (reverse slow motion) buttons

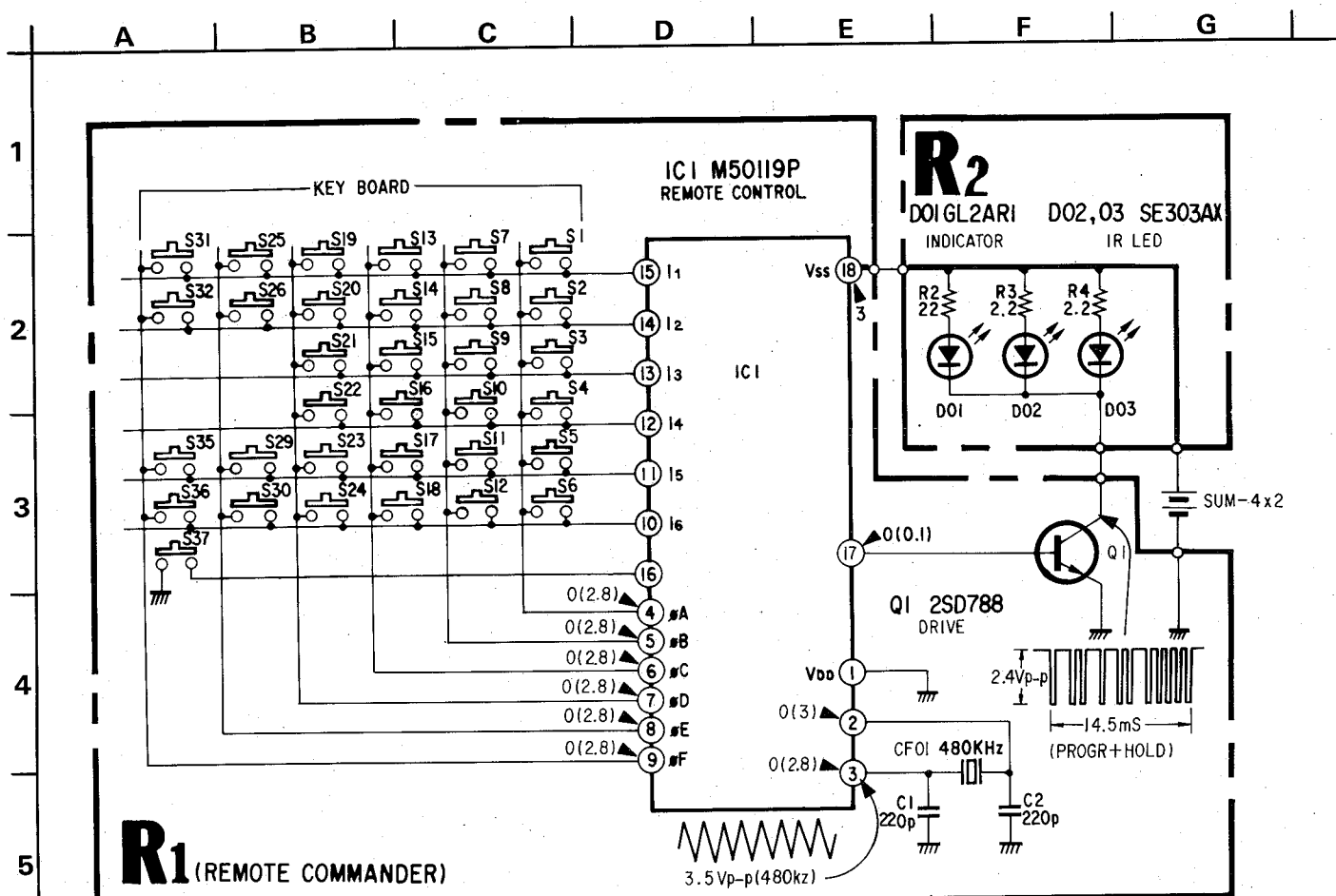
Function the same as the **8** and **9** SWING SEARCH buttons on the SL-F1E.

#### 10 (x1 reverse) button and

**11 (x1 forward) button**

Function the same as the **10** and **11** SWING SEARCH buttons on the SL-F1E.

## 2. SCHEMATIC DIAGRAM



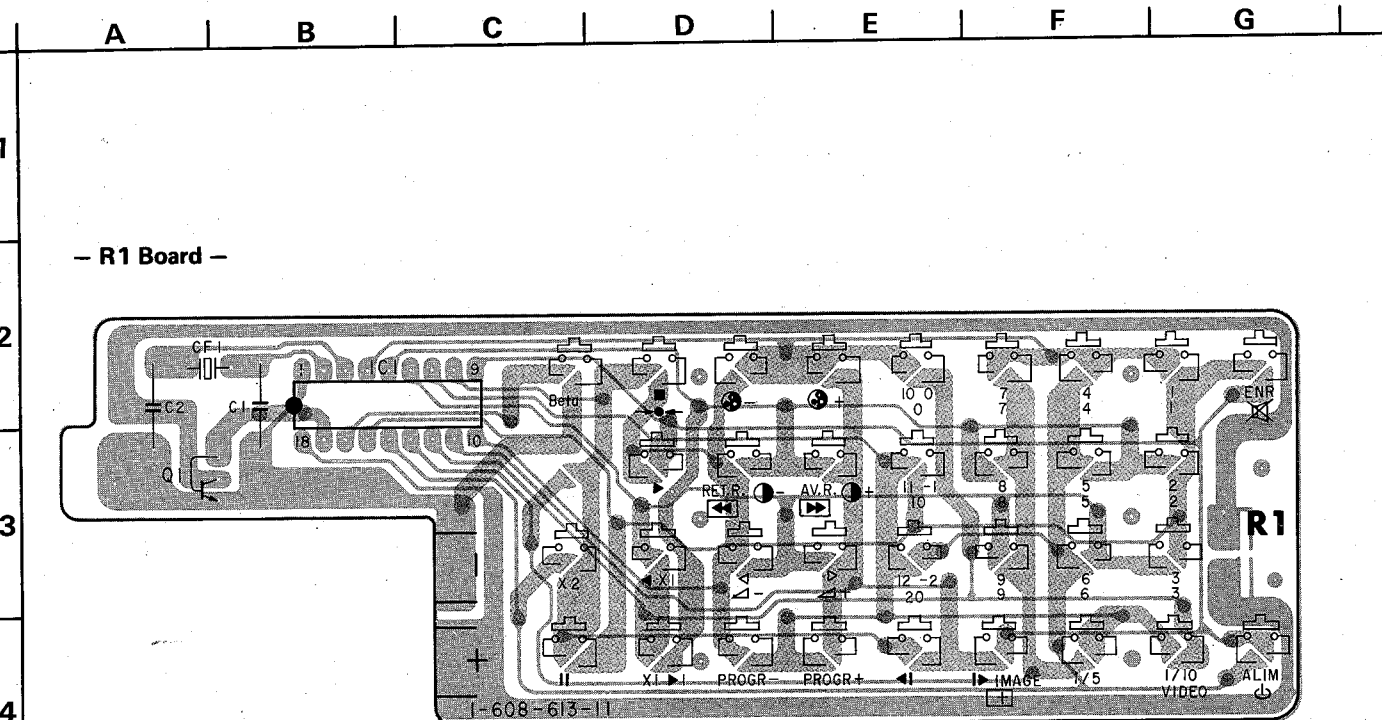
KEY MATRIX

	A	B	C	D	E	F
1	S1	1	S7	2	S13	3
2	S2	4	S8	5	S14	6
3	S3	7	S9	8	S15	9
4	S4	0	S10	X1 ▶ I	S16	◀ X1
5	S5	+	S11	◀ +	S17	◀ +
6	S6	-	S12	◀ -	S18	◀ -
7						
8						
9						

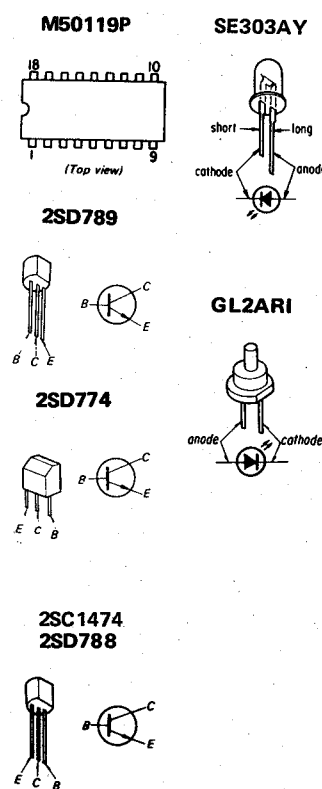
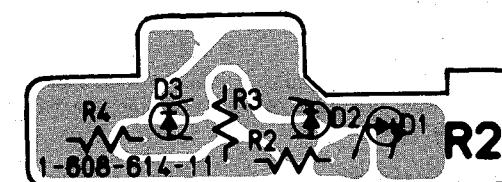
- Voltages and waveform are for when any push button is pressed.
- Voltages in ( ) are taken with button not pressed.
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms,  $\frac{1}{4}$  W unless otherwise noted. k: 1000  $\Omega$ , M: 1000 k $\Omega$
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

## R1 R2

## 3. MOUNTING DIAGRAMS



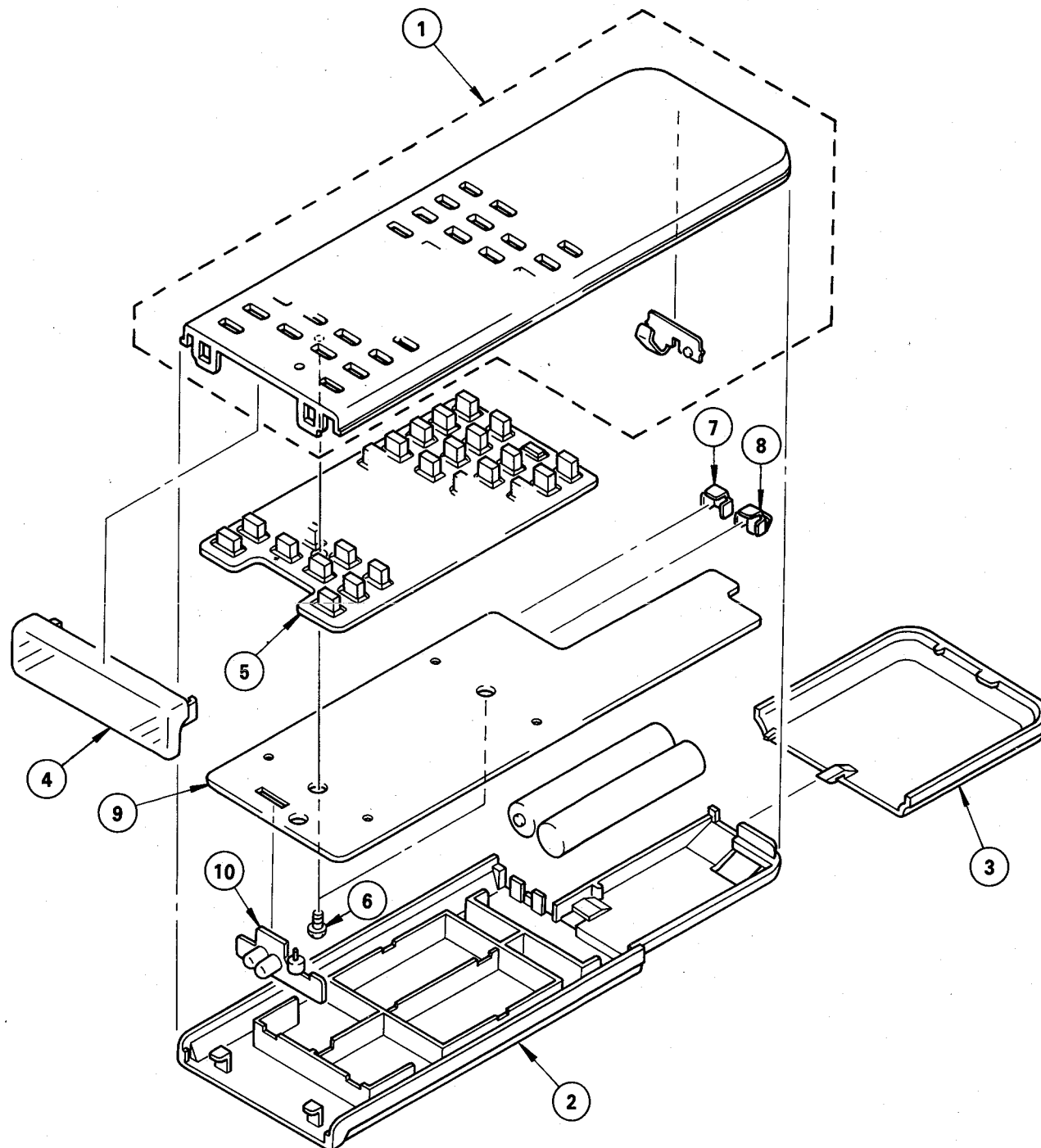
— R2 Board —



#### 4. EXPLODED VIEW

##### NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "●" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	X-4362-211-0	CASE (UPPER) ASSY, COMMANDER		6	4-356-741-00	SCREW, TAPPING (BIND 2X5)	
2	4-361-948-00	CASE (LOWER), COMMANDER		7	4-348-542-00	TERMINAL (A), BATTERY	
3	4-361-945-00	COVER, BATTERY		8	4-348-543-00	TERMINAL (B), BATTERY	
4	4-361-943-00	PANEL, FRONT, COMMANDER		9	●:1-608-613-00	R1 BOARD	
5	4-361-944-21	SHEET, RUBBER		10	●:1-608-614-00	R2 BOARD	

**R1 R2**

#### 5. ELECTRICAL PARTS LIST

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS  
• MF :  $\mu$ F, PF :  $\mu$ pF

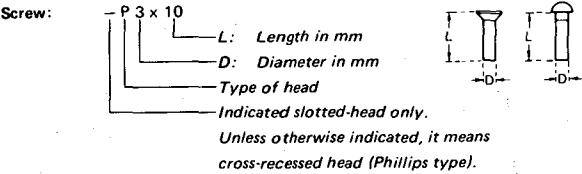
- Items marked "●" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

RESISTORS  
• All resistors are in ohms

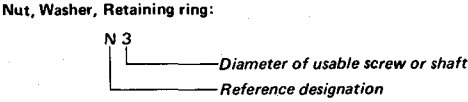
When indicating parts by reference number, please include the board name.

COMMANDER	Ref.No.	Part No.	Description	Remark
	●:1-608-613-00	R1 BOARD	*****	
	4-348-542-00	TERMINAL (A), BATTERY		
	4-348-543-00	TERMINAL (B), BATTERY		
		CAPACITOR		
C01	1-161-315-00	CERAMIC	220PF 10% 50V	
C02	1-161-315-00	CERAMIC	220PF 10% 50V	
		FILTER		
CF01	1-527-476-00	OSCILLATOR, CERAMIC		
		IC		
IC01	8-759-600-07	IC M50119P		
		TRANSISTOR		
Q01	8-729-378-84	TRANSISTOR 2SD788		
*****				
	●:1-608-614-00	R2 BOARD	*****	
		IC		
D01	8-719-900-23	DIODE GL-2AR1		
LED02	8-719-107-82	DIODE SE303AY		
LED03	8-719-107-82	DIODE SE303AY		
		RESISTOR		
R02	1-247-791-00	CARBON	22 5% 1/6W	
R03	1-247-767-00	CARBON	2.2 5% 1/6W	
R04	1-247-767-00	CARBON	2.2 5% 1/6W	

HARDWARE NOMENCLATURE



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

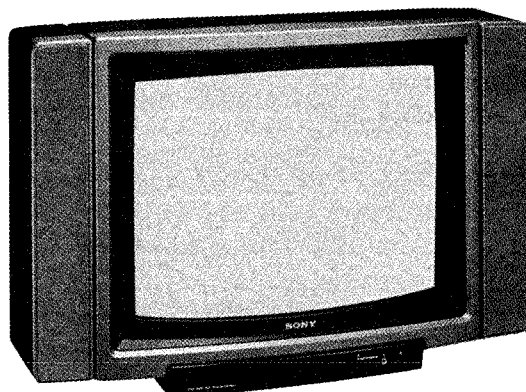


Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	



# QE-X CHASSIS

## ADJUSTMENT MANUAL



April, 1983

KV-2722ET

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1-3.	WHITE BALANCE .....	3
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2.	CIRCUIT ADJUSTMENTS	
2-1.	D BOARD ADJUSTMENTS .....	5
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Note: The printed diagrams and illustrations used in this Adjustment Manual are of KV-2722ET.

TRINITRON® COLOR TV  
**SONY®**



CTV

## SECTION 1 SETUP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted:

- (picture) control . . . . . maximum  
(Press ● + button)
- ☀ BRIGHTNESS control . . . . maximum  
(fully clockwise)
- AFT switch . . . . . ON

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. White Balance

**Note:** Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser

### 1-1. BEAM LANDING

#### Preparation:

- Feed in the white pattern.
- Before starting, degauss the entire screen.

1. Loosen deflection yoke screw.
2. Adjust purity control as shown in Fig. 1-1.
3. Slide deflection yoke as far forward as it will go.
4. Position neck ass'y as shown in Fig. 1-2.
5. Disconnect leads **Ⓒ** and **Ⓓ** on the C board.
6. Adjust purity control to center vertical red band as shown in Fig. 1-3.
7. Slide deflection yoke back for a uniform red screen.
8. Check green and blue rasters for uniformity by performing the same way as steps 5, 6 and 7.
  - To get a uniform green screen, connect lead **Ⓒ** on the C board and disconnect leads **Ⓓ** and **Ⓔ**.
  - To get a uniform blue screen, connect lead **Ⓓ** on the C board and disconnect leads **Ⓓ** and **Ⓒ**.
- After these checks, connect the leads **Ⓓ**, **Ⓒ** and **Ⓓ**.
9. Tighten the deflection yoke screw.
10. Check if mislanding appears at corners a - d as shown in Fig. 1-4. If mislanding is observed, correct it as shown in Fig. 1-4.
11. Confirm that beam landing is correct when the receiver is faced in all directions.

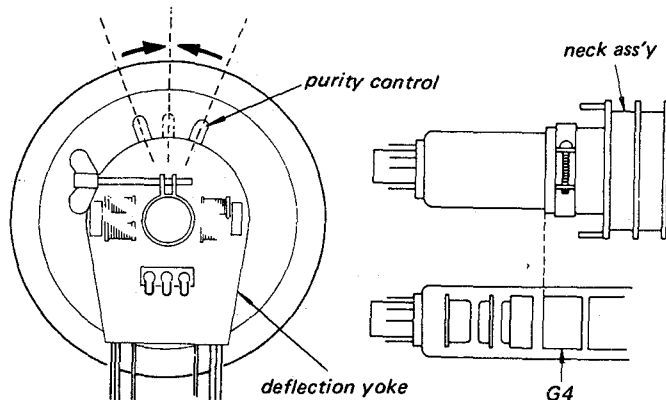


Fig. 1-1.

Fig. 1-2.

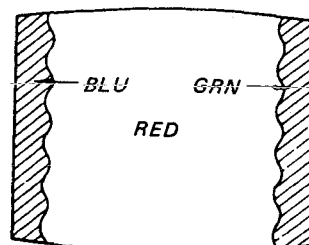


Fig. 1-3.

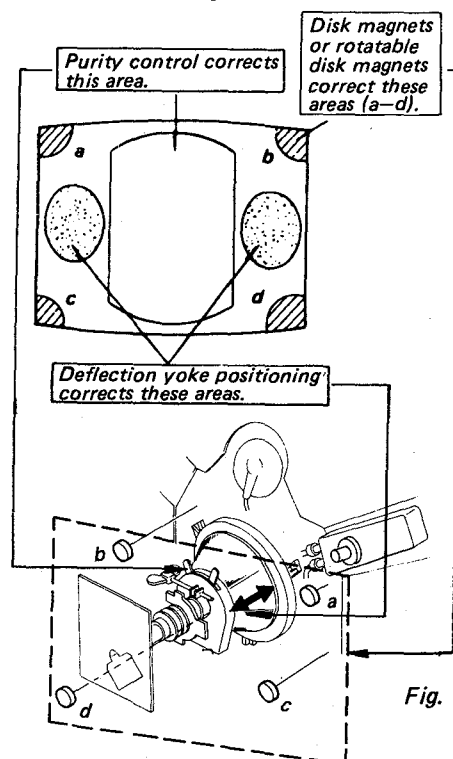


Fig. 1-4.

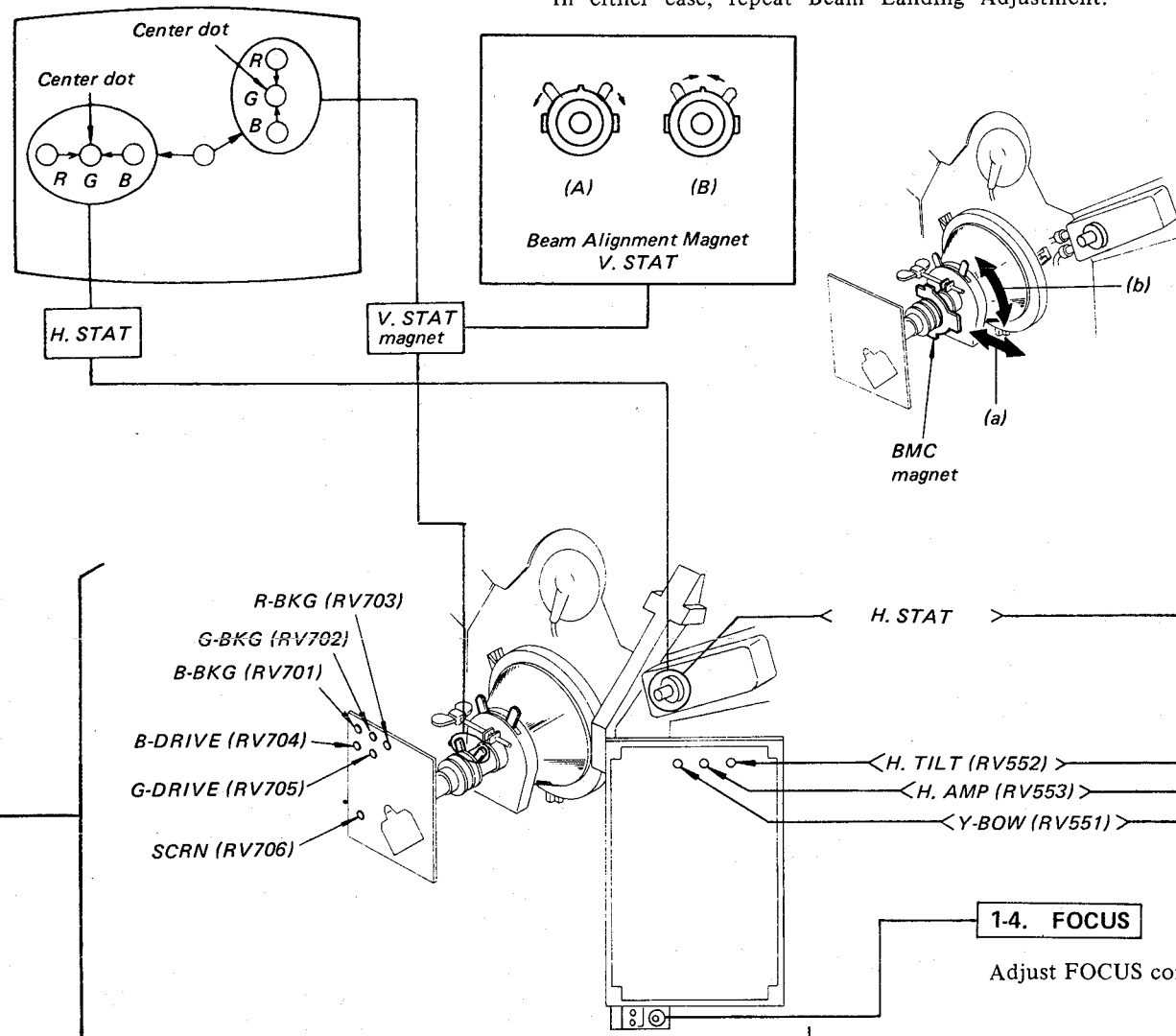
**Note:** The circled numbers (1-9) show above steps.

## 1-2. CONVERGENCE

### Preparation:

- Before starting this adjustment, perform FOCUS, H. SIZE and V. SIZE adjustments.
- Turn BRIGHTNESS control fully counterclockwise.
- Feed in a dot pattern.

### (1) Horizontal and Vertical Static Convergence



If blue dot does not coincide with red and green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H. static convergence.

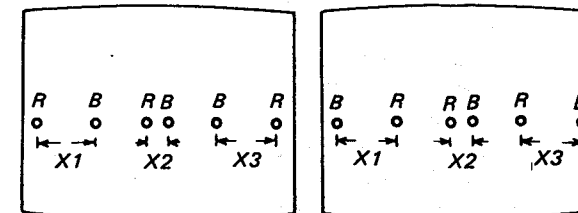
Rotate BMC magnet (b) to correct insufficient V. static convergence.

In either case, repeat Beam Landing Adjustment.

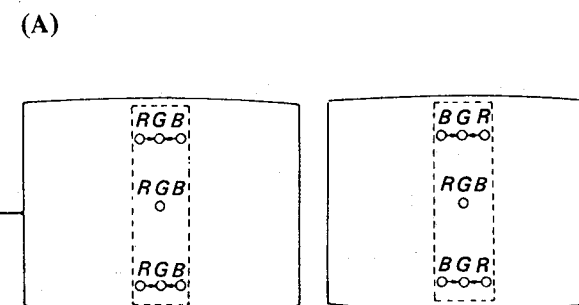
### (2) Dynamic Convergence

[Misconvergence at Both Sides of Screen.]

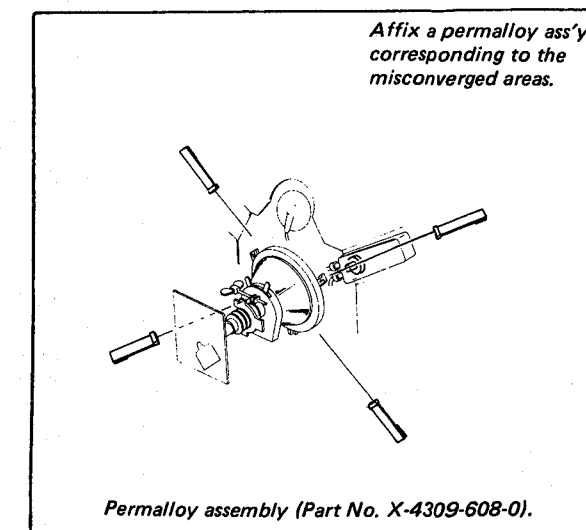
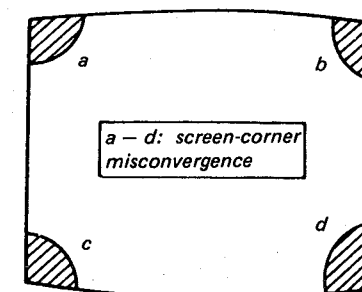
1. Set RV552 and RV553 to mechanical center.
2. Adjust H. STAT control so that green and blue dots coincide at center of screen.
3. Adjust RV552 so that X1 is equal to X3.
4. Adjust RV553 so that X2 is equal to X3.
5. Repeat above Steps 1 through 4 two or three times.



[Top and Bottom Misconvergence]



### (3) Screen-corner Convergence



## 1-3. WHITE BALANCE

Feed in a cross-hatch pattern.

1. Turn BRIGHTNESS control fully counterclockwise and press **●** - (picture) button to obtain a minimum picture position.
2. Turn RV704 (B.DRIVE) and RV705 (G.DRIVE) fully clockwise.
3. Set RV701 (B. BKG), RV702 (G. BKG) and RV703 (R. BKG) to mechanical center.

4. Turn RV706 (SCRN) slowly to obtain a faintly visible cross-hatch. Note the color which first becomes visible by turning RV706. Do not turn a BKG control for this color.

5. Adjust the other two BKG controls for best white balance (neutral gray) of faint cross-hatch.

6. Turn BRIGHTNESS control fully clockwise and press **●** + (picture) button to obtain a maximum picture position. Observe the screen and adjust the DRIVE control for best white balance.

7. Repeat Steps 1 through 6 several times.

## 1-4. FOCUS

Adjust FOCUS control for a best picture.

## SECTION 2 CIRCUIT ADJUSTMENTS

### Note: (1) TEST EQUIPMENT REQUIRED

1. Oscilloscope
2. Voltmeter (VOM)
3. Color-bar/pattern generator
4. Television multiplex modulator

### (2) INPUT SIGNAL

When making these adjustments, supply a cross-hatch, a color-bar, or an off-air signal.

### (3) CONTROL SETTINGS

Controls and switch should be set as follows when making checks and adjustments unless otherwise noted.

(picture) control }  
 SHARPNESS control } Set for best picture.  
 (color) control }

BRIGHTNESS control . . . mechanical center  
 AFT switch . . . . ON

(4) These adjustment should be performed with rated power supply voltage, unless otherwise noted.

### (5) CIRCUIT ADJUSTMENTS

Adjustment	Circuit Board	Page
PIN PHASE PIN AMP V PIN V ANGLE H SIZE H CENT Horizontal Sync ADJ	D	5, 6
TU AGC SUB COLOR SUB BRIGHT SUB BALANCE ADJ SEPARATION ADJ 1H DL ADJ CW PHASE 4.433MHz	A	7, 8
135V ADJ	F	9

### 2-1. D BOARD ADJUSTMENTS

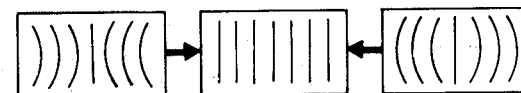
#### PIN PHASE

Adjust with RV556 so that the left and right vertical lines are parallel.



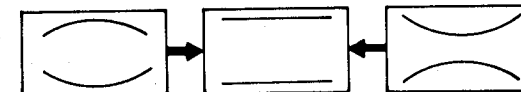
#### PIN AMP

Adjust left and right pin with RV555.



#### V PIN

1. Receive a special color pattern.
2. Set PICTURE, BRT at normal state.
3. Turn L502 (PAC) to adjust upper and lower pin distortion.

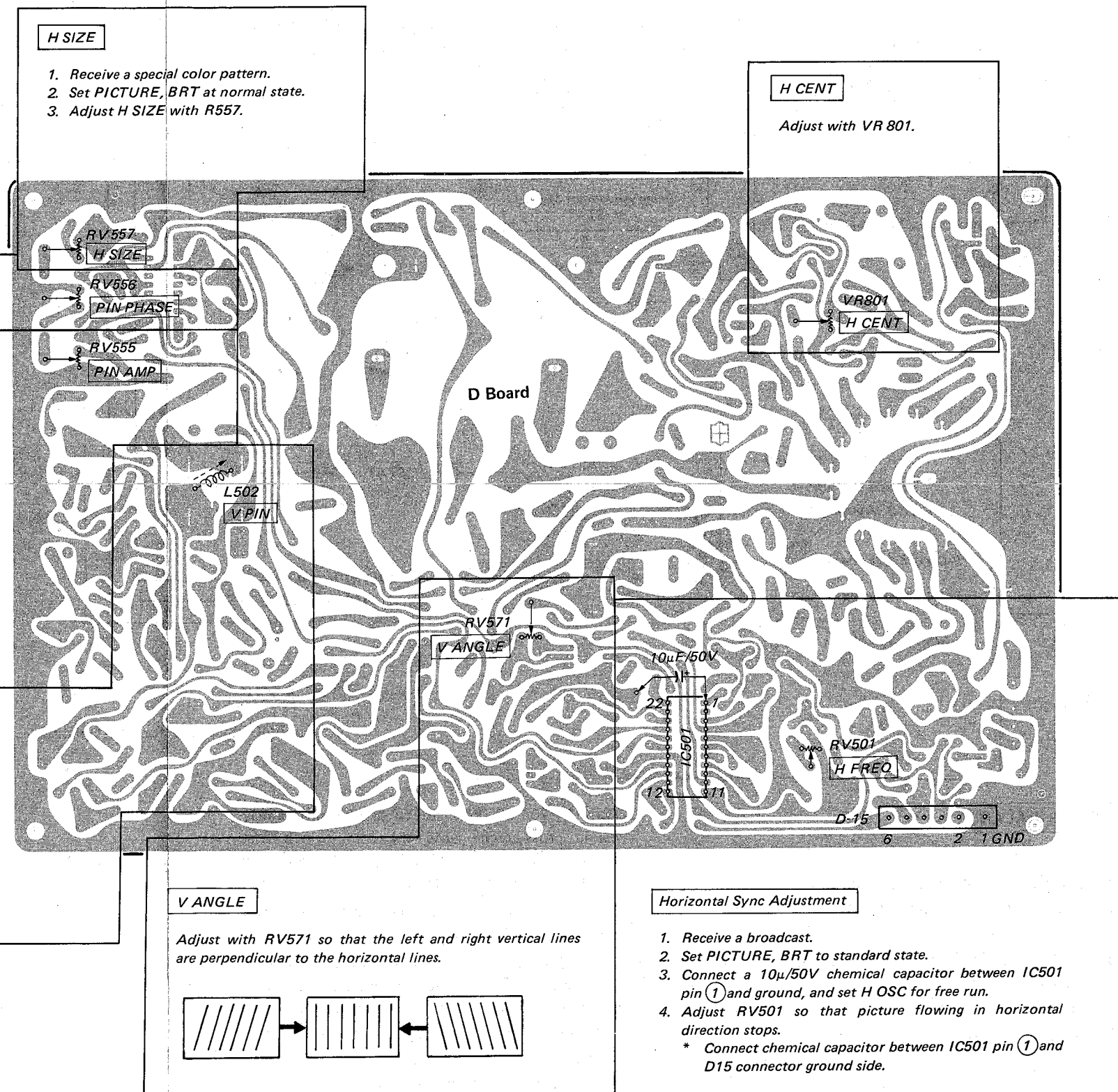


#### H SIZE

1. Receive a special color pattern.
2. Set PICTURE, BRT at normal state.
3. Adjust H SIZE with R557.

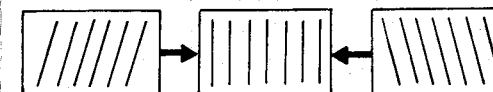
#### H CENT

Adjust with VR801.



#### V ANGLE

Adjust with RV571 so that the left and right vertical lines are perpendicular to the horizontal lines.



#### Horizontal Sync Adjustment

1. Receive a broadcast.
  2. Set PICTURE, BRT to standard state.
  3. Connect a 10µF/50V chemical capacitor between IC501 pin ① and ground, and set H OSC for free run.
  4. Adjust RV501 so that picture flowing in horizontal direction stops.
- \* Connect chemical capacitor between IC501 pin ① and D15 connector ground side.

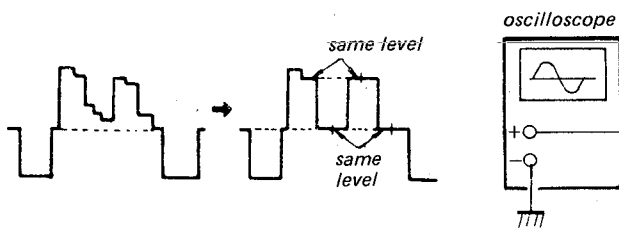
2-2. A BOARD ADJUSTMENTS

4.433MHz

1. Receive a color bar signal.
2. Release KILLER circuit.
3. Mount 100kΩ between IC301 pin ⑬ and ground.
4. Cut burst signal by mounting a 10/16V chemical capacitor between IC301 pin ⑯ and ground.
5. Turn RV305 until color cycle stops. Color cycle stop range is wide with respect to the VR rotation, so stop at the point where color is lightest.

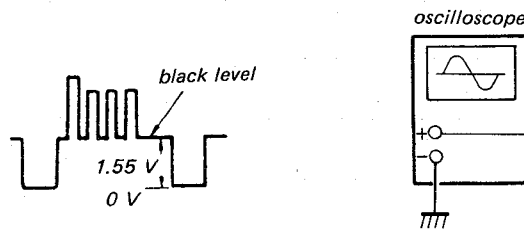
SUB COLOR

1. Receive a color bar or PHILPS color pattern.
2. Set each VR at normal state.
3. Turn RV302 until A-5 pin ④ red output is in normal state.



SUB BRIGHT

1. Receive a color bar signal.
2. Set PICTURE at MIN, and COLOR VR at MIN or 50%.
3. Set BRT VR at MIN.
4. Observe A-5 pin ⑥ blue output black level and make this black level potential 1.55V DC.

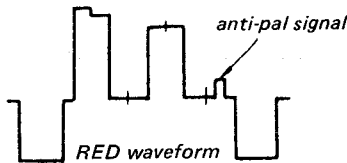


TU AGC

1. Receive a broadcast.
- Adjust with RV201 so that the snow noise on the picture disappears.
- \* Receive each channel and confirm that there is no beat, snow noise, etc.

CW PHASE

1. Receive a color bar signal. (PHILPS)
2. Set each VR at normal state.
3. Turn RV304 until A-5 pin ④ red output ANTI-PAL signal becomes zero potential.



SEPARATION ADJ

1. Receive a stereo signal. (L: 400Hz, R: 1kHz)
2. Check that LED453(A), LED454(B) light up for SW403 on, and that L, R signals appear on A-23 pins ② and ④.
3. Adjust with RV101 so that the R signal overlapping the L signal at A-23 pin (LCH) is minimum.
4. Check that LED453(A) and LED454(B) go out at SW403 off, and that L and R signals appear on A-23 pins ② and ④.

SUB BALANCE ADJ

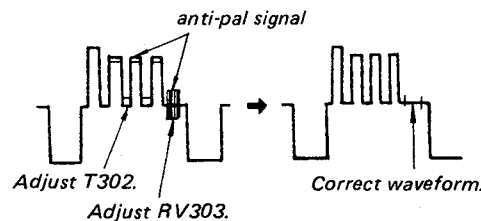
1. SW403 (S/S) OFF. Set RV408 (BALANCE), RV402 (BASS), RV403 (TREBLE) to center.
2. Adjust with RV203 (SUB BALANCE) so that left and right levels are the same at A-23 connector pins ②, ④.
3. Turn RV408 to the right and confirm that the left side cannot be heard, then turn to the left and confirm that the right side cannot be heard.

1H DL Adjustment

1. Receive a color bar signal.
  2. Observe blue output of A-5, ⑥ pins.
  3. Set PICTURE, COLOR, BRT VRs to normal state:
- PICTURE VR 50%, COLOR VR 50%, BRT VR 50%, Remote Control NORMAL.
4. Get tracking with both T302 and RV303 as shown in the diagram below.

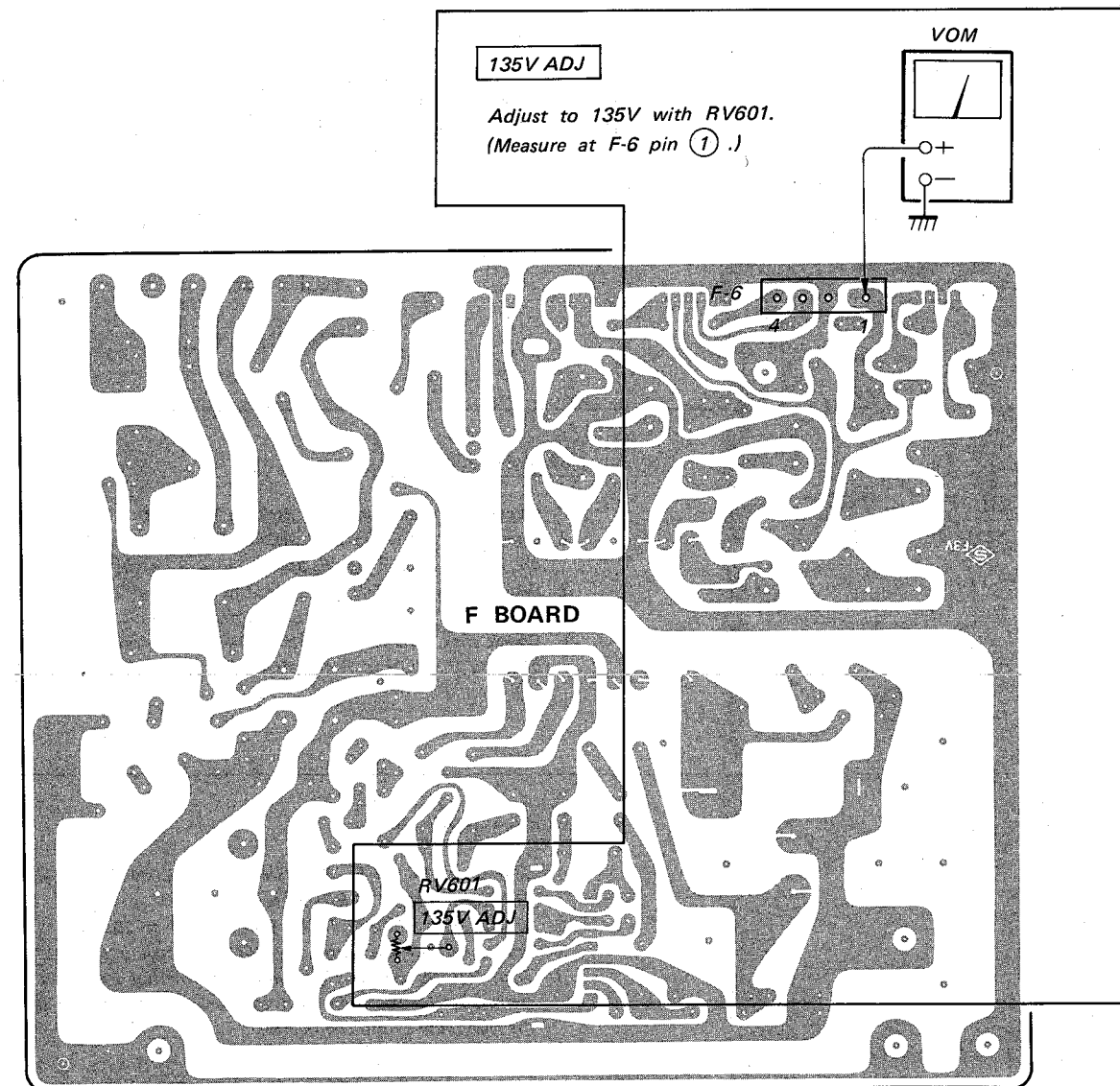
Note: PICTURE 80% is 27.7V DC on M-2 pin ②, MIN is 6.88V DC.

\* SUB COLOR VR (RV302) Coarse Adjustment  
When color does not take well, adjust with RV302 until normal state is reached. (First do ANTI-PAL signal phase coarse adjustment.)





## 2.3. F BOARD ADJUSTMENT



MEMO